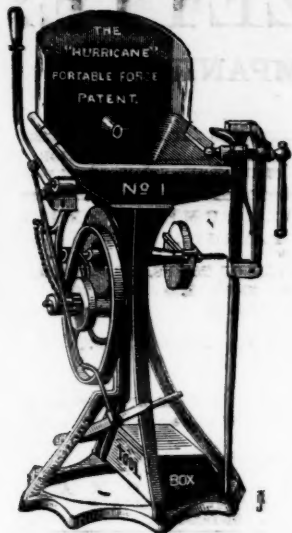


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THE "HURRICANE" PORTABLE FORGE

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A Complete and Portable Smithy, possessing a Powerful Blast, a Forge, a Hearth, a Vice, an Anvil,



a Tool Grinder, (Emery), a Cutter, Circular Saw, and Bench, a Chuck, Two Drills, a Drill Rest, and a Tool Box.



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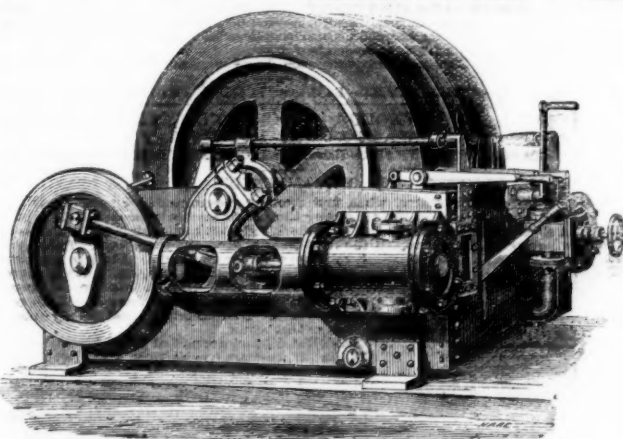
THE NORTH WALES COAL FIELD:
Being a series of Diagrams showing the Depth, Thickness, and Local Names of the Seams in the principal Collieries of the various districts, with Index, Geological Map, and horizontal sections across the Ruabon, Brymbo, Buckley, and Mostyn districts.

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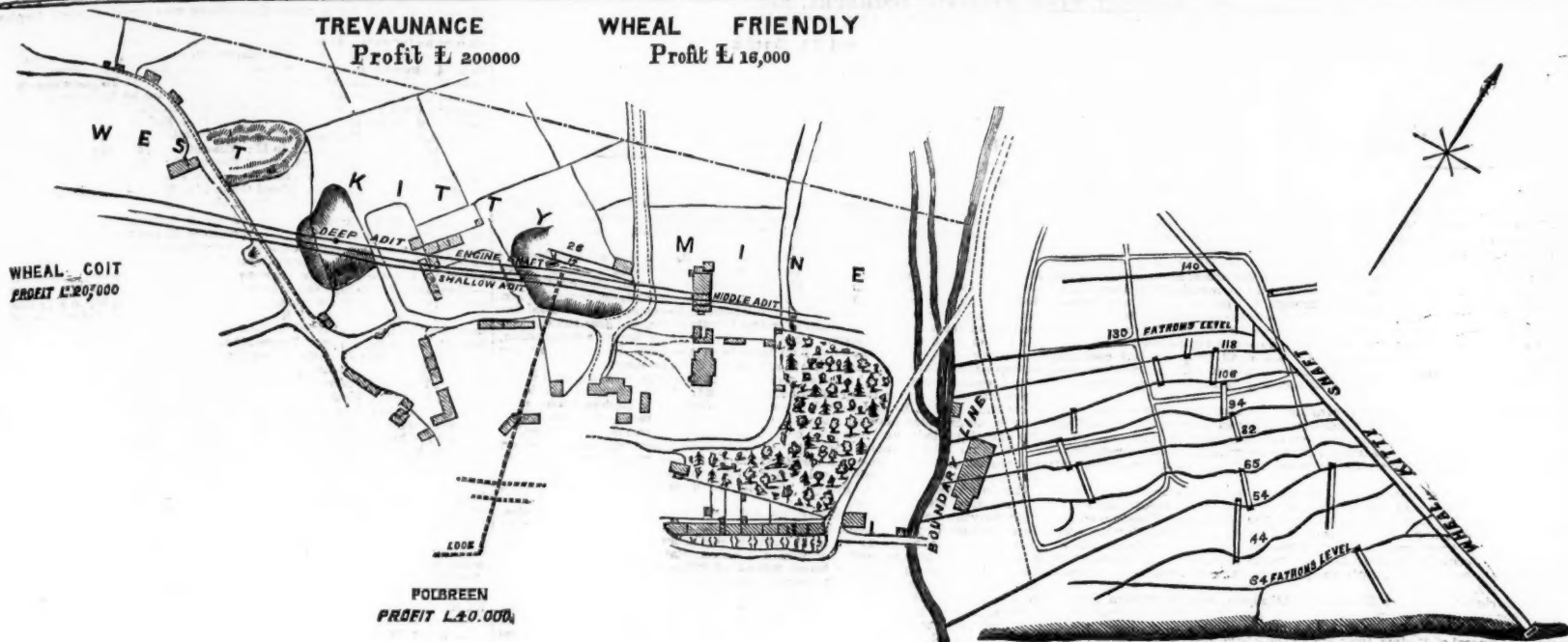
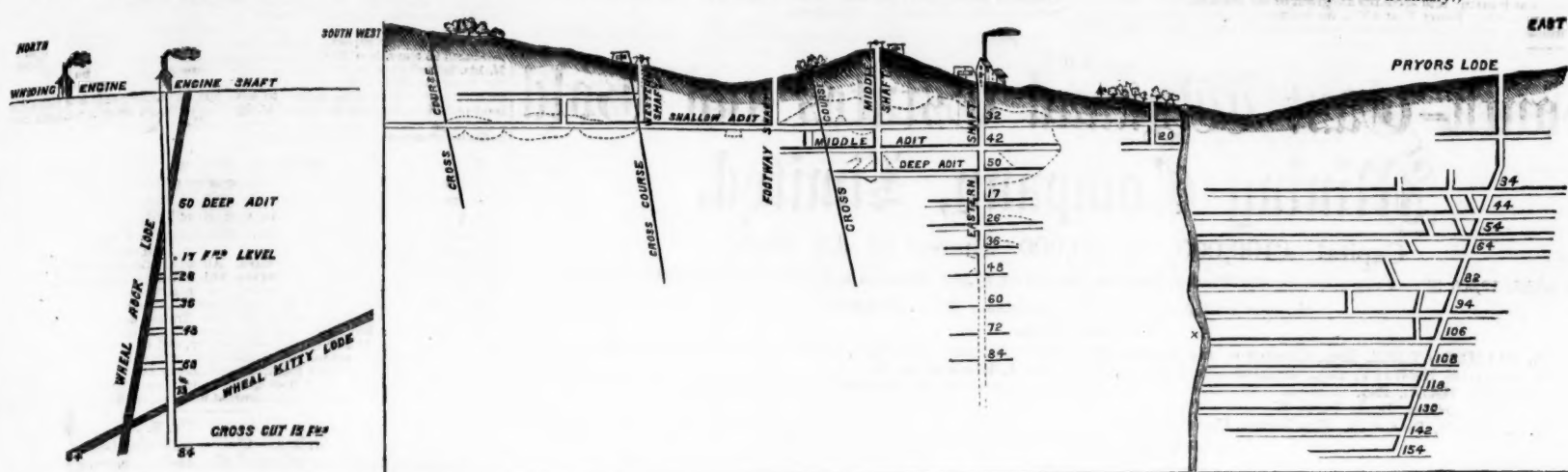
WILLIAM RICHARDSON,
GAS AND HYDRAULIC ENGINEER,
94, CHARLES HENRY STREET, BIRMINGHAM

THE IRON AND COAL TRADES' REVIEW
The IRON AND COAL TRADES' REVIEW is extensively circulated amongst the Iron Producers, Manufacturers, and Consumers, Coalowners, &c., in all the iron and coal districts. It is, therefore, one of the leading organs for advertising every description of Iron Manufactures, Machinery, New Inventions, and all matters relating to the Iron, Coal, Hardware, Engineering, and Metal Trades in general.
Offices of the Review: 7, Westminster Chambers, S.W.
Remittances payable to W. T. Pringle.

PLAN OF WEST KITTY MINE AND WORKINGS IN WHEEL KITTY ADJOINING.

VERTICAL (NORTH AND SOUTH) SECTION OF WEST KITTY MINE.

VERTICAL (EAST AND WEST) SECTION OF WEST KITTY MINE.

SECTION OF WHEEL KITTY.
Profit about £50,000. Dividend, 35 per cent.
The Tin Ground passing into the West Kitty Mine.
(Ends up to the Boundary.)

The interest which has been excited by the two articles written on the above plan, and the questions which those articles have called forth, induce us to call the attention of our readers to further facts which have come under our notice. In our price list it will be seen that the sum of 2s. per share is stated to have been paid on the shares of this company; but our readers will understand, without going into details, that this by no means gives a correct impression as to the actual sum which has been expended in the development of this property. The most ignorant will hardly suppose that 2s. per share was sufficient to purchase the splendid machinery on the property; to sink the shaft from surface 120 fms.; to extend levels, and to do the large amount of other work which has so successfully been carried out. When the proprietors agreed to constitute themselves into a company, subject to the Act of Parliament, 1869, for the Better Regulation of Mines Within the Stannaries, it would have been quite fair for them to have taken credit for about 3l. 10s. per share on the 6000 shares; and, if it had been their intention to appeal to the public for money and to bring the mine out under the Limited Liability Act, they unquestionably would have done so. But they had no such intention. Their resolve was, and indeed is, to have the mine worked to its legitimate issue under the safest and most economical principle they could adopt. They would have gained nothing by having it stated that 3l. 10s. had been paid upon their shares under the Cost-book System. The dividends will be equally distributed amongst the shareholders, without any reference to the amount which is paid on their respective holdings. Thus it was that the profits in Trevaunance were equally distributed amongst the proprietors, and it would have mattered nothing to them if their shares had a sum of 100l. each credited. We are glad to be called upon to direct attention to this question because it opens up a very serious one for the British capitalist, and no one will understand the importance of it more than those who have most unwisely consented to the issue of a large number of fully paid-up shares under the Limited Liability Act, thereby burdening companies with an incubus which it has been impossible to successfully contend against.

In making these observations we wish it to be most distinctly understood, however, that had West Kitty been brought out under the Limited Liability Act the sum of 20,000l. would have been an ex-

remely low price to charge for that property, as we shall presently show; and it would have been most readily subscribed, as we can prove. We are credibly informed that some of the proprietors have been shareholders in this undertaking for the last 12 or 13 years; and they were the gentlemen who were so anxious to constitute themselves into the company which has been so successfully formed. Directly their resolution was arrived at to work the mine so great was the desire to have shares that no less than 8000 were applied for between themselves, whereas 6000 only could be allotted. This was done without the slightest notification to any outsider, and was the result of a simple announcement of their intention by the Chairman who presided over the deliberations. The steady and firm advance, together with the unquestionable demand which has existed for these shares in all parts of the country, should at least teach this lesson to the promoters of mines—"that the public appreciate fair play, and will seize on that which has a margin for a considerable rise." But we have before us evidence as to the real merits of the property itself, and it leaves no doubt not only as to the position of this property, but also as to the value of it. We did not intend to give this evidence, as we thought that our general statements, based as they were on facts, would have been more than sufficient. We have now on our table the joint report of three agents of a first-class reputation, and who evidently know almost every inch of the ground, and we will take from this report only two paragraphs as indicative of its general tenor:—"The Wheel Kitty Mine adjoins this mine to the east. The lodes which have produced such large quantities of tin ores in that mine traverse the whole of this set at a moderate depth, in a stratum which is congenial for tin, and can be easily wrought." "In conclusion, we beg to say that we have inspected nearly all the mines in Cornwall, and judging from the present appearance and the position of the mine, which is quite in the centre of some of the best mines of the district, we consider this should be laid open as early as possible."

Now those paragraphs forever settled two points.—1. That the Wheel Kitty lodes traverse the entire length of West Kitty.—2. That the stratification is right. And it must be remembered that this report was made before the present machinery was put up, and, consequently, before the Wheel Kitty lode was cut in West Kitty engine-shaft. We wish we could give the whole of the reports in ex-

tensio, but the pressure on our space will not admit of it. Nevertheless, the subject is so important to those who are on the look out for a first-class mining investment that we feel compelled to give some further extracts. The following is from the discoverer of Great Wheel Vor, a tin mine of world-wide celebrity:—"It is seldom we have seen a piece of mining ground where there is so small a risk for the capital required to explore such productive lodes as have been worked in Wheel Kitty for about the last 40 years." Capt. Gilbert, then the manager of West Basset, is still stronger in his assertions, and says:—"I should strongly recommend that an engine be speedily erected, and the shaft sunk to the depth required to intersect Wheel Kitty lode. I believe this would ensure success, and make this mine as profitable and as lasting as any of its rich neighbours." But we might enlarge *ad infinitum*. West Kitty is admitted to be a first-class mining property, and it is impossible to estimate its value. The above reports were written before the 50-in. engine was put up. But what has occurred since? The shaft has been sunk; the Wheel Kitty lode has been cut; on its course to the west they have a distance of 100 fms.; on its course to the east, and towards Wheel Kitty, they have a distance of 90 fms.; and the manager, who is reported to be one of the most cautious men in Cornwall, pronounces the mine to be a prize, and says that in due course "we shall be able to return 20 tons of tin per month" from this Wheel Kitty lode, cut in the West Kitty shaft. No one can refute that statement.

The lode, traversing this district, is unquestionably one of the finest in Cornwall. We are not surprised, under the foregoing circumstances, at the demand which has sprung up for New Kitty shares (late Polbreen). The influential shareholders of West Kitty who are grappling with that property will do well. The situation of the mine, the extent of the sett, and its proximity to Wheel Kitty and West Kitty, all single it out as, and destine it to take a very prominent position in this very celebrated group. The facts stated in these articles, which we have gathered on the highest authority, are such as will not only command confidence, but are facts which must inevitably advance the market value of these mines very considerably; and we are glad, not only in the interests of mining generally but in the interest of St. Agnes' district in particular, that so many are waking up to the facts.

[The offices of both these companies are at 37, Wallbrook, E.C., where shareholders should apply for their information.]

THE THEORY AND PRACTICE OF VENTILATING COAL MINES.—The useful little treatises connected with the practical working of collieries, by Mr. W. Fairley, M.E., have several times been noticed in the *Mining Journal*, and he has now added another—*The Theory and Practice of Ventilating Coal Mines*—which will be equally appreciated. He fears that great ignorance still prevails in mining quarters on the subject, and remarks that every ordinary miner should have a knowledge of the subject because, in fiery mines especially, the safety of the whole number depends upon the individual action of each man employed. Mr. Fairley explains as much as possible by the working out of examples authentically the various principles taken into consideration. In connection with the cause of motion in air it is shown authentically that pressure may be expressed either by feet of air column, inches of water gauge, or lbs. per square foot; several new formulae are given for determining the friction of air, and the effect of splitting, as well as the results of equal and unequal splitting, are fully discussed. Particular attention is drawn to the question of velocity, Mr. Fairley being of opinion that it may be too high for the ventilation to be efficient. For the practical man who has had a sound general education the book is calculated to be of great utility, whilst it is sufficiently concise to suit the most busily engaged engineer. The book is published at the Colliery Guardian office, Essex-street.

MONTANISTISCHER KALENDER.—For the past few years Mr. Carl Fromme, of Vienna, has added to his already large list of technical calendars one specially adapted to the requirement of miners—*Montanistischer Kalender für Oesterreich-Ungar*—edited by Mr. Victor Wolf, the secretary of the Austrian Mining and Ironworkers' Union

(Vereines der Montan-und Eisen-industriellen, in Oesterreich), and from the manner in which the work has been performed it cannot fail to come largely into use wherever the German miner or metallurgist is to be found. The calendar (which is obtainable in London through Messrs. Trübner and Co., Ludgate-hill) shows the saints to which the various days are dedicated in the Protestants, Catholic, and Greek churches, as well as the Jewish feasts and fasts, so that all classes of the community receive consideration. There are excellent tables for comparing the measures in use in various countries with those of Austria and of the metric system, recently introduced into that empire; and for converting fathoms into metres, and *vice versa*. In addition to these there is an excellent table of common logarithms for all natural numbers from 1 to 10,000, with tables of proportional parts, so conveniently arranged that the nearest approach to absolute accuracy can be obtained almost by inspection. There are a good mining directory, mineral statistics, metallurgical tables, and numerous memoranda, of considerable utility to mining engineers. These, with about a quire of quadrilled memorandum paper, are all included in a neat little volume, scarcely 2-in. thick, and which can be conveniently carried in the pocket. The calendar is likely to enjoy a wider circulation in proportion as it becomes known.

FRENCH STUDENTS' VADE MECUM.—Although the study of the French language is commenced by a large number of Englishmen comparatively few reach any point approaching fluency and accuracy in its use, owing, in the first place, to the difficulty of mastering the grammatical niceties which are usually only to be found scattered over large volumes; and, secondly, to the insufficient study of the

synonyms of the language. With a view to make these obstacles as little felt as possible Mr. J. J. Baranowski has just published (London: Trübner and Co., Ludgate Hill) a very useful little volume—*Vade Mecum de la Langue Française*—in which all the more important grammatical rules of the language and a copious collection of synonyms are brought together in a couple of hundred pages only 4 in. by 2½ in., so that it could really be carried for constant reference in the waistcoat pocket until the contents of it are so completely mastered that further assistance from it is unnecessary. It becomes evident from even a casual reading of the book that Mr. Baranowski has deeply studied the French language, and he has noticed niceties which not unfrequently escape the attention of Frenchmen themselves. The fact of the manuscript of the work having been examined and approved by Mr. E. Littré, the well-known French lexicographer, is a sufficient guarantee for the accuracy of the work, whilst as to its utility the question is not likely to be raised. There are a few typographical errors, as on page 31 (b), where *en* is printed for *en*, but as the context suffices for their correction they are not important. Much may be learned from the study of the book, and many stupid and annoying blunders may be avoided by carefully attending to the instruction given. The *Vade Mecum* is well worthy of attentive perusal by all who desire to attain perfection.

CASSELL'S PUBLICATIONS.—The History of Protestantism, part 8, commences shortly before the Council of Pisa, in 1409, at which the leading lights of the Catholic Church declared, and no doubt truly, that both the Popes—Gregory XII. and Benedict XIII.—then occupying the apostolic see were schismatics and heretics, and appointed the Cardinal of Milan—Alexander V.—to replace them. The two Popes in pos-

session, however, would not acknowledge the authority of the Council or of the third Pope, and, as the trio fought spiritually and temporally, with an amount of venom only met with among the clergy, the errors of Popery became more obvious, and Protestantism took a firm hold upon the people that it has ever since continued to progress. The succeeding chapter refers to the denouncement of Lollardism as treason; and accounts are given of the martyrdom of Lord Cobham, Lollardism under Henry V. and VI., the resistance to Papal encroachments, and the influence of the wars of the 15th century upon Protestantism. The eighth

book is commenced, in which will be given the history of Protestantism in Switzerland from 1515 to 1525. Knight's Dictionary of Mechanics, part 38, extends from "Inhaul" to "Joggle Work." "Science for All," part 27, contains articles on a Butterfly, a piece of Whinstone, the Bottom of the Sea, Mars, and on Visible Sound. The Great Industries of Great Britain contains continuations of the articles on pottery and porcelain, cotton, wool, and worsted, iron and steel, ship-building, and on eminent manufacturers.

THE South-East Wynaad Estates and Gold Mining Company, Limited.

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PROSPECTUS

This company is formed to acquire, cultivate, and develop several estates in the South-East Wynaad in the Nilgiri district of the Madras Presidency, and to extract the gold from the numerous quartz reefs which traverse them. The following are a few particulars of the various properties:—
"Needle Rock," consisting of 774 acres, of which 147 acres are planted with coffee, and 20,000 cinchona plants. Crop now on the trees, 30 tons; 200 acres are good forest, suitable for planting purposes, and the remainder grazing land. Two valuable gold quartz reefs run quite through the property, and are named "Buckingham" and "Chandos," after His Grace the Governor of Madras, who visited and inspected the reefs, when gold was washed in his presence. This estate is well found in buildings and tools, and possesses a good herd of cattle.

"Bolingbroke," adjoining "Needle Rock," is a small property, but contains very valuable reefs. Estates about 100 acres, of which only 5 acres are just planted with coffee, and about 45 more of forest are suitable for planting, the remainder for grazing.

"Richmond," "Elizabeth," and "Downham" are near the above estates, and consist of over 600 acres of land, of which about 150 acres are planted with coffee, tea, and cinchona. The crop now on the trees is estimated at 30 tons. About 70 acres are fit for extension, the rest being suitable for grazing. Gold quartz reefs run right through these estates. They are well found in buildings, tools, and cattle.

These properties are held at a very low rental on long leases (the originals and translations of the leases and power of attorney relating to Needle Rock and Bolingbroke estates, can be seen at the offices of the solicitors). These leases are held from, and renewable by, the Rajahs of Nellumbore and Nelliallam, under British rule, who have also granted separate leases of the mining rights which, in the case of the Needle Rock estate, extend over 15 acres, and in the case of the Bolingbroke estate over 5 acres, with an option of extension within five years from August, 1879.

The mining rights over the Richmond, Elizabeth, and Downham estates extend over the whole of these properties. The leases and other documents of title in respect of these properties are on their way to England from the Administrator-General of Madras, from whom they have been purchased by Mr. Dawson, the vendor, as part of the estate of Mr. W. Oakes, deceased.

The crop of coffee now being gathered is estimated to yield from 50 to 60 tons, and the tea and cinchona being cultivated on the estates will shortly be an additional source of profit.

Apart from the surface products, the value of these estates as mining properties may be gathered from the following statements:—From the Madras Times, November, 1878: "Our correspondent in Wynaad, writes:—The telegrams I have sent you are brief and true reports of His Grace's (The Duke of Buckingham and Chandos, Governor of Madras) visit to this district in connection with the gold investigations now being carried out under the orders of the supreme Government by Mr. Brough Smyth. I believe it is a fact that His Grace was requested by the supreme Government to visit the Wynaad before returning to Madras, and to look into matters connected with the gold investigations. Mr. Brough Smyth has opened up a correspondence with the local Government. Mr. Brough Smyth's assays have far exceeded his most sanguine expectations, and he has unhesitatingly stated publicly that there is a grand future for South-East Wynaad. His Grace in a long and most eloquent speech spoke of the great pleasure it gave him to come to Wynaad, and to witness with his own eyes the magnificent results obtained from both quartz crushing and alluvial washing. He gracefully alluded to his visit to the Needle Rock property (one of the estates now offered), and at Mr. Dawson's request, allowed the reefs traversing the property to be named respectively, 'Buckingham' and 'Chandos' and hoped they would prove productive. All interested in the enterprise were delighted when His Grace alluded to the mementoes which he and his daughters had taken with them from the Needle Rock washings, and the way they were prized."

The Mining Journal, dated December 14th, 1878, referring to Mr. Oliver Pegler's visit to the district, says:—"From the samples of the auriferous quartz which have been received it is evident that the veins are very similar to some of those which have been most successfully wrought in Victoria, Australia; indeed, the resemblance of some of the Bendigo reefs is striking—abundance of visible gold, and the quartz stained with iron, just in the same way. Other specimens show the gold in nicely decomposed matrix, and still others consist of rich auriferous gravels, so that, considering the large area over which the deposits are now proved to exist, there can be no question that there is a good field for British enterprise, more especially as labour is extremely cheap and abundant, and there are the utmost possible facilities for working. Some few months since the district was inspected by Mr. Oliver Pegler, Associate of the Royal School of Mines, and although he appears to have made but a superficial survey at the time when he made the report, he has recorded enough to show, beyond doubt, that the district is capable of yielding enormous wealth."

James Caird, Esq., C.B., F.R.S., Famine Commissioner, in an article which appeared in the "Nineteenth Century," for September, 1879, entitled "Notes by the Way in India: the Land and the People," writes—"The Wynaad gold field

is in this part of the country. The Government geologist, Mr. Brough Smyth, who, in addition to official men and planters, was examined by us, and has had much experience in the Australian gold fields, considers this to be as fine a field of quartz bearing gold as he has seen."

Edward B. Eastwick, Esq., C.B., F.R.S., F.S.A., F.R.G.S., in the "Gentleman's Magazine" for January, 1880, in an exhaustive article on "Gold in India," writes—"Mr. Brough Smyth surveyed the Richmond, Elizabeth, Downham, and Needle Rock properties." (Maps of the properties now offered, delineated by Mr. Smyth, can be seen at the offices of the solicitors to the company.) "Gold has been found in a vein not far distant from the Devalla bazar, and near the summit of a hill on the Elizabeth estate. Here, under Mr. Brough Smyth's supervision, several pieces of quartz showing gold have been got from leaders which the natives have followed by making an adit about 30 ft. in length. In all these places, and in many more, there is a good prospect of a large return of gold in the operations which are on the point of being initiated. The science and experience of such men as Mr. Brough Smyth cannot fail to discover fresh deposits of gold, even in places which have been already worked by the natives, and will assuredly also find virgin lodes and new gold fields which have hitherto escaped notice."

"It is no idle surmise, then, but an assured inference ascertained by an accumulation of facts, that the mines which in former times enriched India with an unparalleled supply of gold will ere long pour forth a fresh supply."

It is proposed to employ Mr. C. R. Dawson, dated the 5th November, 1878, accompanies this prospectus.

Mr. Smyth's unqualified opinion of the gold bearing value of these properties, is substantiated by documents bearing his signature, and his report is not only corroborated by the many eminent mining engineers who have visited the district, but by assays made by Messrs. Johnson, Matthey, and Co., and Mr. Oliver Pegler, Associate of the Royal School of Mines, London. Four boxes of stone brought home by Mr. C. R. Dawson, from the estates now offered, yielded an average of 2,285 oz. per ton, in addition to this one of the samples showed 3,947 oz. of silver to the ton of quartz. This result was obtained from surface stone only, selected by planters who knew nothing of mining, or the selection of stone, and no gold was visible in the specimens which were the subjects of these assays.

The whole of the Wynaad district is covered with traces of ancient workings, and these are of such general extent on the properties taken over by the company that there can be no doubt the work was remunerative, notwithstanding it had to be performed with rude tools. By the introduction of machinery, driven by water-power, and directed by the skill of modern science, large profits should result.

The properties acquired by this company are under 35 miles from Ootacamund (the summer residence of the Madras Government), and under 70 miles from Bangalore and Calicut on the western, or Malabar coast, with both of which ports there is good road communication, and water carriage half way. A line of railway is projected which when completed, will connect the district with the Malabar coast.

From Bangalore, there is communication by railway and steam vessels with Bombay and Madras, and there is a direct service of steamers between Europe and Bangalore. Labour is at present plentiful and cheap, and water and timber are abundant on the estates.

The estates are acquired by the company under favourable conditions, the desire of the vendor (who sells for himself as regards all the estates except Bolingbroke, the owner of which he represents by power of attorney), being to have the property fully developed by the introduction of additional capital. The purchase money, payable when the properties are legally transferred (£20,000), includes the crops now being gathered, as well as the buildings, tools, and cattle before referred to; the company taking over the properties as from the 1st December, 1879. It also includes all the expenses incidental to the formation of the company, excepting the legal charges attaching to the preparation of the prospectus, Articles of Association, and the agreement with the vendor. Mr. Dawson accepts £25,000, part of the purchase money, in fully paid up shares, the residue being payable in cash; leaving the balance of the capital (£40,000) for working and developing the properties.

It is proposed to employ Mr. C. R. Dawson, who has been for many years resident in the district, as manager of the estates on behalf of the company, and Messrs. Stanes and Company, of Bangalore, Coimbatore, and Coonor, local and shipping agents, and Messrs. Oakes and Company, agents at Madras.

The only contract is dated the 27th January, 1880, and made between Mr. C. R. Dawson of the one part, and Mr. Clarke Tomalin, on behalf of the company, of the other part, being the agreement for the purchase of the estates.

This agreement, together with the Memorandum and Articles of Association, translations of the leases, power of attorney, above referred to, and the maps of the estate, can be seen at the offices of the company, or the solicitors.

Prospectuses and forms of application for shares can be obtained at the offices of the company, or from the bankers or brokers. Should no allotment be made, the amount paid on application will be returned in full.

one not at all liable to fluctuation, there is seldom much to report upon, and now that surplus capital can find profitable employment elsewhere, this is quiet, but prices do not relax in the least.

MISCELLANEOUS CONCERNS have had a tolerably good demand, transactions being reported in Union Plate Glass, London and Manchester Plate Glass, Birkenhead Trams, Manchester Carriage Company (the B stock being $\frac{1}{2}$ higher, without business done), Household Stores, and Bridgewater Navigation. The majority of the alterations in prices are favourable.

RAILWAYS.—The advance in Chatham's mentioned last week has not been maintained, the price having receded to about 31, but this is about the only adverse movement during the week. Sheffield have been in considerable demand, and their price shows a rise of 5; Great Northern and Midlands, too, have been strong, and are $\frac{1}{2}$ and $\frac{1}{4}$ better respectively compared with last week. The announcement of the dividend on the last-named stock at 6 $\frac{1}{2}$, with 47,000 carried forward, gave a spring to the market, and their price went to 144 odd, from which, however, they have relapsed to 143, 143 $\frac{1}{2}$. The market has been generally strong, and closes to-day very good.

NEWCASTLE-ON-TYNE STOCK EXCHANGE.—Messrs. SPENCE and IRWIN, stock and share brokers, Grey-street (Feb. 5), write:—"The market during the past week has been scarcely so active. Bede Metal shares continue flat, very few being disposed to do anything in them until after the meeting, which is to be held next month. They are offered to-day at 1 $\frac{1}{2}$ dis. Bolckow, Vaughan, and Co. shares have been in strong demand during the week, and have, in consequence, improved in price, and now stand at 152 to 153 for 1000. paid; 30 $\frac{1}{2}$ to 30 $\frac{3}{4}$ prem. for 600. paid, 47 to 47 $\frac{1}{2}$ for B; and 20 $\frac{1}{2}$ to 20 $\frac{3}{4}$ for 5 per cent. preference shares.—Consent Iron Company: An interim dividend of 7s. 6d. per share, being at the rate of 10 per cent. per annum, was declared on the 2nd inst., payable on the 16th. This compares with 5s. per share paid last year; but yet some disappointment has been expressed that it was not more. However, the improvement in trade could not have effected them much up to the close of the half year, and it has always been the custom of the directors to keep the interim dividend well within the available profits. We understand 10s. per share could have been paid. The price to-day is 17 $\frac{1}{2}$ to 18 prem. Consent Spanish Ore shares were in demand until Monday, in expectation of an interim dividend; but none being declared, the price gave way, and there are now larger sellers at 33s., with no definite buyers. Darlington Iron shares are very quiet, at 4 $\frac{1}{2}$ to 4 dis. Hopkins, Gilkes, and Co. shares are also flat, at 4 $\frac{1}{2}$ to 5. John Abbot and Co. shares are eagerly sought for at 12 $\frac{1}{2}$ dis., although buyers do not seem disposed to make much, if any, advance on this price; sellers ask 5 dis.—Palmer's Shipbuilding Company: The A, or fully paid up, shares in this company have long been comparatively neglected in favour of the B shares, which have only 25 $\frac{1}{2}$ paid out of the 35 $\frac{1}{2}$; but the advance of the latter to 5 $\frac{1}{2}$ dis. has drawn attention to the A, which are now in strong demand at 25 $\frac{1}{2}$, at which they are relatively cheap. Skerme Iron shares have during the week fluctuated between 5 $\frac{1}{2}$ and 7,

and close 6 to 6 $\frac{1}{2}$. The directors of the Crook Burn Mine have decided to put up a pulsometer pump, and so get rid of the water. The great improvement in the Green Hurth Mine, mentioned below, is attracting attention to all other mines in the same neighbourhood; and as this mine is exceptionally well situated for the mining of the veins in Green Hurth, there has been, and is, a good demand for the shares; 1s. 3d. dis. (5s. paid) is bid; no sellers. In Duhury Mine they will be able to commence operations by the new shaft in about a couple of months, when good results are expected; 9s. per share is freely bid to-day; no seller. A grand discovery of lead has been made in Green Hurth Mine since our last report. As at present seen, we understand, the lead can be produced at the rate of 30 tons per fathom, and increases towards the bottom. 77. 10s. is freely bid for the shares, whilst sellers ask 9s. 5s. The 6400 $\frac{1}{2}$ capital of the Harwood Mine being all subscribed and expended, it became necessary that further capital should be raised to develop the mine; this has been done by issuing 6400 5s. shares; 2s. 6d. is bid for the ordinary shares without meeting with acceptors. Teesdale Mine shares have been flat all the week, at 12s. 10s. ordinary shares and 13s. for preference.

HULL.—Mr. W. F. SUTTON, stock and share broker, St. Mary's Chambers (Feb. 5), writes:—"The prices of railway stocks have been well maintained during the past week, and in the case of Great Northern, Caledonian, London and Sheffield, there has been a considerable enhancement in value. The latter are especially strong on very sanguine views as to the future of the lines, and the deferred stock has advanced about 7 per cent. in three days. Already, with one month gone only of the present year, an estimate of the year's dividend appears in one London paper, and the speculative mania is so strong that in anticipation of a possible result, which cannot be known for 12 months the stock is pushed up to a price which can only be justified by actual realisation. Trunks have had a rather severe shake, but have rallied again, and look like making a further advance. Today's traffic must be considered highly satisfactory, and the line has yet to feel the benefit of the Chicago extension. Local stocks without change. Quotations are:—Hull Bank, 55; Yorkshire Bank, 28 $\frac{1}{2}$; London and Yorkshire Bank, 24; 25s.; Hull Trams, 12 $\frac{1}{2}$; Hull Dock, 9 $\frac{1}{2}$ ex div.; and Earle's Shipbuilding, 20s.; these last, by the way, being somewhat lower on realisations to secure profits."

CORNISH MINE SHARE MARKET.—Mr. S. J. DAVEY, mine share dealer, Truro (Feb. 5), writes:—"Closely following the tin market there has been a sharp fall in prices of the leading shares since last week, followed by a partial recovery. Smelters reduced the Tin Standard 3 $\frac{1}{2}$ per ton, and for a short time there was great anxiety displayed to sell, but the tin market improved again, and buyers of shares at better prices soon came forward. Cook's Kitchen shares fell to 6 $\frac{1}{2}$. Dolcoath shares fell to 6 $\frac{1}{2}$, from 7 $\frac{1}{2}$ to 7 $\frac{1}{2}$. Carn Brea shares fell to 97, East Pool to 35, South Frisco to 15 $\frac{1}{2}$, Tincroft to 26, and Wheal Pevor to 35. Wheal Grenville shares advanced to 11, 12, and afterwards fell to 8 $\frac{1}{2}$, 9. West Tolgus shares further advanced to 65, 70, from 50 to 55. The following are to-day's prices:—Blue Hills, 4 $\frac{1}{2}$ to 5; Carn Brea, 100 to 102 $\frac{1}{2}$; Cook's Kitchen, 7 to 8; Dolcoath, 6 $\frac{1}{2}$ to 7; East Pool, 35 to 37; Killifreth, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; Mellanear, 6 $\frac{1}{2}$ to 7 $\frac{1}{2}$; New Cook's Kitchen, 6 $\frac{1}{2}$ to 7; Penhall, 3 $\frac{1}{2}$ to 3 $\frac{1}{2}$; South Condurrow, 12 to 13; South Croft, 17 to 18; South Frisco, 16 to 17; Tincroft, 26 $\frac{1}{2}$ to 27 $\frac{1}{2}$; West Basset, 17 $\frac{1}{2}$ to 18 $\frac{1}{2}$; West Frisco, 22 to 24; West Pevor, 10 to 11; West Killy, 3 to 3 $\frac{1}{2}$; West Faldice, 4 to 5; West Seton, 65 to 70; West Tolgus, 65 to 70; Wheal Agor, 8 to 8 $\frac{1}{2}$; Wheal Basset, 4 to 4 $\frac{1}{2}$; Wheal Grenville, 8 $\frac{1}{2}$ to 9 $\frac{1}{2}$; Wheal Killy, 7 $\frac{1}{2}$ to 8; Wheal Pevor, 35 to 37; Wheal Uny, 5 $\frac{1}{2}$ to 5 $\frac{1}{2}$.

—Mr. J. H. REYNOLDS, stock and share broker, Redruth (Feb. 5), writes:—"The smelters having reduced the standards 3 $\frac{1}{2}$ per ton in the early part of the week, consequent on the decline in the metal market, caused a severe panic in the share market, and prices receded rapidly, but yesterday and to-day prices recovered themselves on an improvement in the tin market, and close as follows:—Blue Hills, 4 $\frac{1}{2}$ to 4 $\frac{1}{2}$; Carn Brea, 102 to 105; Cook's Kitchen, 7 $\frac{1}{2}$ to 7 $\frac{1}{2}$; Dolcoath, 7 to 7 $\frac{1}{2}$; East Caradon, 4 $\frac{1}{2}$ to 5 $\frac{1}{2}$; East Lovell, 3 $\frac{1}{2}$ to 3 $\frac{1}{2}$; East Pool, 35 to 39; Herodfoot, 3 $\frac{1}{2}$ to 4; Killifreth, 1 to 1 $\frac{1}{2}$; Marke Valley, 3 to 3 $\frac{1}{2}$; Mellanear, 6 $\frac{1}{2}$ to 7 $\frac{1}{2}$; New Cook's Kitchen, 6 $\frac{1}{2}$ to 7 $\frac{1}{2}$; North Bury, 4 to 4 $\frac{1}{2}$; North Levant, 5 $\frac{1}{2}$ to 6 $\frac{1}{2}$; North Penrith, 2 to 2 $\frac{1}{2}$; Penrith United, 11 to 11 $\frac{1}{2}$; Penhall, 3 to 3 $\frac{1}{2}$; Phenix, 6 to 6 $\frac{1}{2}$; South Caradon, 15 to 16; South Condurrow, 12 to 13; South Croft, 17 to 18; South Frisco, 15 to 16; St. Aubyn United, 25 to 30; Tincroft, 26 $\frac{1}{2}$ to 27 $\frac{1}{2}$; West Basset, 18 $\frac{1}{2}$ to 19 $\frac{1}{2}$; West Croft, 13 to 13 $\frac{1}{2}$; West Frisco, 22 $\frac{1}{2}$ to 23 $\frac{1}{2}$; West Pevor, 10 $\frac{1}{2}$ to 10 $\frac{1}{2}$; West Seton, 65 to 70; West Tolgus, 65 to 67; Wheal Agor, 7 $\frac{1}{2}$ to 8; Wheal Basset, 3 $\frac{1}{2}$ to 4; Wheal Crebor, 12 $\frac{1}{2}$ to 13; Wheal Comfort, 7 to 7 $\frac{1}{2}$; Wheal Grenville, 8 $\frac{1}{2}$ to 9; Wheal June, 3 $\frac{1}{2}$ to 4; Wheal Killy, 4 to 4 $\frac{1}{2}$; Wheal Killy, 7 to 7 $\frac{1}{2}$; Wheal Pevor, 36 to 37; Wheal Uny, 5 $\frac{1}{2}$ to 5 $\frac{1}{2}$; Wheal Frisco, 20 to 21.

—Messrs. ABBOTT and WICKETT, Redruth (Feb. 5), write:—"The market has been subject to violent fluctuations this week, owing to the fall in the standard. Late last night there was a smart recovery, and most shares are now at an upward tendency. Subjoined are the closing prices:—Botalack, 35 to 38; Carn Brea, 100 to 102; Cook's Kitchen, 7 $\frac{1}{2}$ to 8 $\frac{1}{2}$; Dolcoath, 7 to 7 $\frac{1}{2}$; East Pool, 37 $\frac{1}{2}$ to 38; Killifreth, 1 to 1 $\frac{1}{2}$; Mellanear, 7 to 7 $\frac{1}{2}$; New Cook's Kitchen, 6 $\frac{1}{2}$ to 7; Penrith United, 11 to 13; South Condurrow, 13 to 13 $\frac{1}{2}$; South Croft, 17 to 18; South Frisco, 16 $\frac{1}{2}$ to 17 $\frac{1}{2}$; Tincroft, 27 to 28; West Basset, 18 $\frac{1}{2}$ to 19 $\frac{1}{2}$; West Frisco, 22 to 23; West Pevor, 10 to 11; West Seton, 65 to 70; West Tolgus, 65 to 70; Wheal Agor, 8 to 8 $\frac{1}{2}$; Wheal Basset, 4 to 4 $\frac{1}{2}$; Wheal Grenville, 8 $\frac{1}{2}$ to 9 $\frac{1}{2}$; Wheal Pevor, 36 to 37; Wheal Killy (St. Agnes), 7 $\frac{1}{2}$ to 7 $\frac{1}{2}$; Wheal Prussia, 2 $\frac{1}{2}$ to 2 $\frac{1}{2}$; Wheal Uny, 5 $\frac{1}{2}$ to 5 $\frac{1}{2}$.

—Mr. M. W. BAWDEN, Liskeard (Feb. 5), writes:—"The reduction of 3 $\frac{1}{2}$ on the Tin Standards and heavy advices of copper from Chili have reversed the order of the share market from buyers to sellers, and prices generally have receded; but to-day tin and copper have improved, and shares are firmer, the subjoined being the closing quotations:—Bedford United, 13 $\frac{1}{2}$ to 14; Carn Brea, 97 to 100; Clitters, 5 to 5 $\frac{1}{2}$; Cook's Kitchen, 7 to 7 $\frac{1}{2}$; Dolcoath, 7 to 7 $\frac{1}{2}$; Devon Consolidated, 17 $\frac{1}{2}$ to 18; East Caradon, 4 $\frac{1}{2}$ to 4 $\frac{1}{2}$; East Pool, 35 to 36; Gawton, 13 to 14; Glasgow Caradon, 13 to 14; Herodfoot, 3 to 4; Hingston, 13 to 14; Marke Valley, 3 $\frac{1}{2}$ to 3 $\frac{1}{2}$; Phenix, 6 $\frac{1}{2}$ to 6 $\frac{1}{2}$; South Caradon, 15 to 16; South Croft, 15 to 16; South Frisco, 15 to 15 $\frac{1}{2}$; Tincroft, 25 to 27; West Basset, 17 to 18; West Frisco, 20 to 21; West Mary Ann, 13 to 14; Wheal Basset, 12 to 12 $\frac{1}{2}$; Wheal Pevor, 34 to 35; Wheal Uny, 5 to 5 $\frac{1}{2}$.

Meetings of Public Companies.

NATIONAL PROVINCIAL BANK OF ENGLAND.

An extraordinary general meeting of proprietors was held at the Bank House, Bishopsgate-street, on Thursday,

MR. RICHARD BLANEY WARD in the chair.

MR. R. FERGUSON (joint manager) read the notice convening the meeting, and the special report of the directors was submitted.

The report stated that the board had set forth for the consideration of the meeting the measures which they considered essential for the purpose of registering the bank under the recent Act of Parliament for "limiting the liability of members of banking and other joint stock companies." The directors had endeavoured not only to consider the interests of the shareholders, but also the interests and complete security of the depositors and customers of the bank. The board considered it necessary to issue 16,875 20s. shares, at 10s. per share premium. In order to give ample time for payment of the new shares referred to, the directors had fixed the following order of payment of instalment and premium:—viz., March, 13, 1880—instalment 2s. per share; Jan. 15, 1881—instalment 2s. per share; Jan. 15, 1882—instalment 2s. per share; Jan. 15, 1883—instalment 2s. per share; Jan. 15, 1884—instalment 2s. per share; Jan. 15, 1885—instalment 2s. per share. The shares would be allotted to those proprietors whose names stood upon the register on the 8th inst., in the following proportions:—viz., 7-64ths of a share to each 50l. share; 4-40ths of a share to each 20l. share.

Attention was also directed to the circular which had been forwarded to the proprietors, and in which it was stated that in accordance with the opinion of the board, the last annual meeting that the liability of proprietors should be limited, they were desired by the directors to inform the proprietors that in order to effect that purpose they had resolved to recommend the proprietors to sanction the re-registration of this bank on July 1 next, under the provisions of the Banking and Joint-Stock Companies Act of 1879. Having regard to the position which the National Provincial Bank of England, held the amount of its liabilities to customers, and the continuous expansion of business, the directors were of opinion that the subscribed capital should be increased to at least 12,000,000.

In order to accomplish that object the directors proposed to issue 16,875 new shares of 20s. each, at a premium of 10s., to be allotted in the proportion of 7-64ths of a share to each 50l. share, 4-40ths of a share to each 20l. share. They also proposed to divide each existing 50l. share into two shares of 25l.; to increase the 25l. shares to 75l., and the 20l. shares to 60l. The additional 50l. to the former shares, and 40l. to the latter, to form a "reserve liability," which, in the words of the Act, should not "be capable of being called up, except in the event of and for the purposes of the company being wound up." By that arrangement the interests of the customers would be amply secured, and the proprietors' liability determined. The share capital of the company would then stand thus:—Capital paid up, 2,227,500 $\frac{1}{2}$; capital uncalled, 1,765,000 $\frac{1}{2}$; reserve liability, 3,025,000 $\frac{1}{2}$; total, 12,037,500 $\frac{1}{2}$. The above figures were exclusive of the reserve fund, which would amount to 1,380,000.

The Chairman observed that it would be within the recollection of the proprietors who attended the general meeting in May last that he undertook that the Banking Bill, then before the House of Commons, if it should become law, should be brought before the shareholders to consider its provisions. Subsequently a resolution was passed expressing the wish of those present at the meeting that the bank should, under those circumstances, be registered as a limited company. It was in consequence of those steps that the present meeting had been called to consider the scheme. There was no doubt that difficulties had beset the passing of the Banking Bill, and they were so considerable that he had almost despaired of it ever becoming law. Their best thanks were, therefore, due to the Chancellor of the Exchequer for his firmness in proceeding with it, and also to many of the leading members of Parliament, who kindly aided in bringing about the desired results. (Cheers.) The measure had been called by some a bad bill—a crude piece of legislation; and a variety of hard names had been attached to it. But although he (the Chairman) could not call it a perfect bill, and believed that if more time could have been bestowed on its details in the House of Commons it might have been improved in many ways. Nevertheless, it could not have been a very bad bill, seeing they found that out of the 64 unlimited banks in the country no less than 23 or 24 of them had, within six months of the bill becoming law, decided to recommend their shareholders to register under it; and when they recollected that amongst the 24 banks the London and Westminster, the London and County, the North and South Wales,

PROVINCIAL STOCK AND SHARE MARKETS.

MANCHESTER.—Messrs. JOSEPH R. and W. P. BAINES, sharebrokers, Queen's Chambers, Market-street, Manchester (Feb. 5), write:—"A fair amount of business is reported as having been transacted during the past week, and prices, with the exception of the iron, &c., companies are again generally higher. Although the market may be said to have lost to some extent the extreme buoyancy—that is, in its effect on all classes of securities alike and without discrimination—still a steady demand continues and keeps prices from receding much, but the opinion seems becoming apparent that some stocks have reached prices which it would be unwise to follow further, and this causes attention to be given to very low-priced stocks, some of which have moved upward very decidedly since last report. It is only reasonable that when operators find stocks in which they have been dealing getting to prices at which it becomes somewhat precarious to still follow them, a fresh channel of investment should be sought for, and demand bringing hitherto neglected concerns into notice, causes them to participate to a less or greater degree in the general advance. Such has been the case lately, and whilst the concerns which have figured foremost in the late advance maintain their values very fairly, enquiry is now noticed for concerns still low. The tone of the market is strong and hopeful. Banking concerns have been dealt in to a moderate extent, and prices have on all our local banks made advances, Manchester and Liverpool District Bank being foremost with $\frac{1}{2}$ better quotation; on the other hand, National Provincial (new) show a decline of $\frac{1}{2}$.

INSURANCE.—About an average business is reported in the class of securities, and all the variations are for the better. Royal Liverpool are $\frac{1}{2}$, Liverpool and London and Globe $\frac{1}{2}$, and Thames and Mersey Marine $\frac{1}{2}$ higher. The rest of the changes, and they are not numerous, are only slight.

MINERAL AND MANUFACTURING.—It is to this class especially that our general remarks apply. The alterations in prices for the better, and those showing declines are pretty evenly balanced, the changes being attributable, doubtless, to individual causes. The chief features noticeable are:—Higher: Nant-y-Glo and Blaenau (preferred), 11; United States Rolling Stock, 3; Chatterley Iron, 1 $\frac{1}{2}$; Bolckow, A (60l. paid), 1 $\frac{1}{2}$; ditto, B, 1; Cammell, 1; and Tredegar, B, 1; Lower: Sheep-bridge, 3; Tharvis Sulphur, 1 $\frac{1}{2}$; Earle's Shipbuilding, 2 $\frac{1}{2}$; Bilbao Iron Ore, 3 $\frac{1}{2}$; Vulcan Foundry and Great Laxey Lead Mine 1 each.

COTTON SPINNING AND MANUFACTURING.—In cotton spinning concerns a fresh spring has occurred this week, and prices all round have gone up some shillings. This market, consequent seemingly of the strength of the trade generally in the matter of showing good margin of profit, and the attraction of fresh capital for investment therein has during the past few days again become rampant, the demand being general. Good premiums are now asked and got for shares which some few weeks ago were at long discounts. Much confidence seems to be felt in the future of the trade generally, and as long as this lasts we may look for prices going yet higher.

GAS AND WATER SUPPLIES AND CORPORATION STOCK has not been much in view during the past week, and prices continue as at last report. This class being

Feb.	3—Pandora	30	3 16 6	Crown Zinc Compan
	5—Van	75	4 4 0	Kenrick and Son.

Llandegla Mining Company, Limited.

Incorporated under the Companies Acts, 1862 and 1867, whereby the Liability of each Shareholder is Limited to the Amount of his Shares.

CAPITAL £15,000, IN 15,000 SHARES OF £1 EACH.

Payable 10s. on Application, and 10s. on Allotment.

DIRECTORS.

WILLIAM ARTHUR, Esq., Holland-road, Kensington.
ALFRED THOMAS, Esq., White House, Southgate.

(Two directors, to be appointed at the first meeting of shareholders, to be added to the above.)

BANKERS—NATIONAL PROVINCIAL BANK OF ENGLAND, London and Mold.

AUDITOR—MR. FRANCIS WOOD, 47, Finsbury Circus, E.C.

SECRETARY—MR. ROBERT CUMMING.

OFFICES—10, COLEMAN STREET, LONDON, E.C.

1. The object with which this company has been formed is to purchase and work a valuable mineral property in the parish of Llanarmon-in-Yale, in the counties of Denbigh and Flint, which lies immediately to the south of the Bodirris Mines, and not far from the celebrated Minera group, which has already paid upwards of £500,000 in dividends, and continues in a prosperous state.
2. The property, which is held under grant from Sir William Grenville Williams, Bart., at the moderate royalty of 1-12th (to be reduced to 1-15th when steam-power is applied), extends for one mile on the well-known and proved lodes of this rich district, and offers the highest prospects of a successful development as the result of the expenditure of an unusually small amount of capital.
3. The property contains several masterly lodes, two of which have already been partially developed with satisfactory results, and promise to be more than ordinarily productive when the present shafts attain a somewhat greater depth. The company has, in fact, merely to continue the work so far prosecuted, and will thus wholly avoid the expense attendant upon exploratory operations of a preliminary character. The ground is easy for working, and a natural system of drainage to the 80 yard level will save the company that heavy expense on account of pumping machinery, which so seriously diminishes the capital of many new concerns. The work already done, which is considerable, will of course be an important saving to the company, both of time and money.
4. Looking to the bearing of the lodes and to the geological position of the property, it is the opinion of competent judges that the probabilities of a prize in Llandegla are unusually great, and there is little doubt in the minds of the directors that the company will enter the market with sales of ore in time to reap the full benefit of that expected revival of trade which must of necessity bring with it better prices for lead and other metals.
5. Subjoined are the reports of two mining engineers who have made a thorough examination of the property, and as they emanate from highly competent and reliable authorities, the directors attach the greatest importance to them.
6. Owing to the proximity of the railway, and the country roads between that and the property being good, the carriage of ore and materials will be effected at an exceptionally low rate.
7. Basing their opinion on the foregoing facts, as well as on the full reports appended, the directors are justified in believing that an energetic development of the Llandegla Mine will be attended with results of a highly remunerative character to those who join in the undertaking.
8. The only contract entered into is one dated the 28th day of January, 1879, between William Francis of the one part, and Robert Cumming of the other, and this, together with the Articles of Association, and samples of the lead ore now being mined, may be seen at the registered offices of the company, No. 10, Coleman-street, E.C., in the City of London.

REPORT OF MR. GOODMAN ELLIS, CHIEF SUPERINTENDENT OF NORTH HENDRE MINES.

NOW PRODUCING FROM 200 TO 300 TONS OF LEAD PER MONTH.

LLANDEGLA MINE.

In accordance with your request I visited the above mine on the 1st instant. The set is situated in the parish of Llanarmon-in-Yale, county of Denbigh, joining Bodirris Mines to the south, and lies about three miles to the north-west of the Minera Mines. The property is extensive being about one mile in length, and about three-quarters of a mile in width. There are three east and west lodes running throughout. The distance between the north and middle lode is about 320 yards, and the south lode about 130 yards from middle lode. The position of these lodes is very good, situated as they are in the heart of the limestone formation with "flat measures" and "shales" to the south-east, which never fail to be productive in the locality.

I descended a shaft on the north lode which is 20 yards deep; 12 yards from surface there is a drift driven east in a very strong lode and some good lead is to be seen both in the back and forebush of this driftage, and from which a good pile is now on surface. This run of lead ore starts west of the shaft and dips eastward with the stratification, and as it gains depth it is superior both in quantity and quality, and I have no doubt, when a reasonable depth is attained, it will be much richer.

South Shaft: This shaft is sunk to a depth of 60 yards, but for the greater part of the distance in the rock of the country. Levels east and west, however, have been extended upon the lode, "middle lode" (as I call it) at the depth of about 15 or 20 yards from surface. The lode here is very strong and highly promising, but too shallow to produce much lead at this point. When intersected from the bottom of the shaft you may reasonably expect an improvement.

There is one feature of importance which adds greatly to the value of the property and that is the presence of a "swallow" which will enable you to work to the depth of 80 yards without the aid of pumping machinery. I am happy to be able to state that, in my opinion, you possess a very good property and one that can be quickly and cheaply developed.—I am your obedient servant.

North Hendre Mines, February 12th, 1879.

REPORT OF MR. HENRY HOTCHKISS, LOCAL SUPERINTENDENT OF BODIRIS MINES.

Bodirris Mines, near Mold, Jan. 16, 1879.

LLANDEGLA MINES.

I have made a thorough inspection of this property, both at surface and underground, and find it embraces a large tract of mineral ground containing several valuable lodes, together with a large extent of ground which is contained the horizontal lead-bearing measures, known as the "flat measures," and which in almost all cases have proved extremely rich in this district.

The property lies immediately to the south of the Bodirris Mines, and between them and the celebrated Minera Mines (which latter mines have paid dividends to the extent of upwards of £500,000, and are now very productive and profitable), and in precisely similar stratification of rocks.

There are three known east and west lodes running parallel to each other at an average bearing of 30° south of east and north of west, which the direction taken by the most productive lodes hitherto worked. Two of these lodes are being worked upon, and the development so far must be considered highly satisfactory.

North Lode: Upon this lode a shaft has been sunk a distance of 23 yards, but at the very shallow depth of 12 yards only a very rich course of lead ore was struck, and has been worked upon successfully eastward, and from this some high quality lead has been raised and sold.

This course of lead ore (as all strong lodes do) has taken an easterly dip, and where seen in the bottom of the level the lode is larger and of a much richer character than above. The lode in places will produce a ton and upwards of lead per fathom.

In order to develop this lode economically, I would recommend that a new engine-shaft be sunk from surface further east to take this run of ore at a depth of 50 or 60 yards, and as the ground is favourable for sinking this would take comparatively short time and little money, and if I am not much mistaken this operation would at once give you a good mine in this part of your property.

South Lode: This lode is running parallel with the last mentioned, at a distance of about 320 yards, and only that it is larger and wider, is much the same in composition as the other, and in depth. I think, will prove the richer of the two. A good shaft has been sunk (at a considerable cost of money and time) upon this lode to the depth of 30 yards, where a level has been extended east and west, for a distance of 40 yards, and eastward a good run of lead ore has been followed to below the level where the lode has gone down stronger than ever, but in order to develop this effectively the lode must be intersected at a greater depth, and with this in view the shaft has been sunk a further distance of 30 yards perpendicularly, and preparations at this depth are now being made to intersect the lode by means of a short cross-cut north, a few yards driving will accomplish this object, and I think will be the means of making a valuable discovery. With regard to the "flat measures" before alluded to, a trial shaft should be sunk at a properly selected spot, and I have no doubt good results would ensue.

Looking at the advantageous geological position of the property, comprising as it does the very best mineral bearing strata, and considering the success already achieved in the development of the lodes at such shallow depths, a practical miner can come to the conclusion that the chances of a prize are unusually great, and I have no hesitation in predicting a brilliant future for the mine.

I ought to add that the mine is naturally drained by means of a "swallow" to a depth of about 70 or 80 yards; this is a great advantage, inasmuch as it will save the expense of pumping machinery.

H. HOTCHKISS.

In the back of the 70 is being pushed up as fast as can be, by six men, to open out the section of ore ground referred to in my last report as worth 1 ton of lead ore per fathom.—Dressing-Floors: We have cleared out all the debris around the walls of the old wheel-pit, and the masons have commenced, and others are engaged in clearing the culvert to the large revolving plunger, and taking out the crusher for repairs.

CLEMENTINA.—J. Roberts, W. Sandoe, Feb. 4: Owing to the late severe frost our wheel was idle for two or three weeks, and consequently the water has been in the bottom part of the mine; but since the frost has gone our pumping-wheel has got to work and the water forking very well. We expect it will be all out from the roadside shaft to-morrow. The men working in the bottom level at the engine-shaft we put to clear up the sump at the bottom of the 15 ft. level until the water is again cleared out of the mine, when they will again resume their places and the production of a short cross-cut north, a few yards driving will accomplish this object, and I think will be the means of making a valuable discovery. With regard to the "flat measures" before alluded to, a trial shaft should be sunk at a properly selected spot, and I have no doubt good results would ensue.

COMBINATION.—T. Harris, T. Comer, Feb. 5: At the 17 we are continuing our cross-cut north-west of Harris's cross-cut for the footwall of the lode; we are meeting with veins of quartz and floukan, and we calculate we have about 9 ft. more to drive to reach the footwall, as seen at the adit level. In the 17 south-east we have a very pretty looking lode from 4 to 5 ft. wide, of quartz, &c., with seams and stones of lead throughout the whole width of the lode, which has a most encouraging appearance for a bunch of lead quickly. In the north-west adit end the lode has greatly fallen off, it being at present small, and unpromising in appearance, caused by a floor of hard kila coming down from the back of the level, and disordered the lode for the present, but we think the change is only temporary, as we have met with such changes before in driving this lode, and we hope it will soon improve again.

CWM PRYF.—Absalom Francis, Feb. 5: The weather during the past week having been very favourable for surface operations we have taken advantage of it for widening and repairing water-course from the River Rhedol on to the tail of water-course, and from thence the lying wooden pipes or launders on to the 40-ft. diameter wheel; by wooden pipes or launders having had to cross the bed of the River Rhedol, which would have been a very troublesome job in any but very dry weather. I am glad to say this has been completely and successfully accomplished, nearly all our men and miners having been engaged about it, and, therefore, I have nothing new to report as to underground bargains, on which we shall start again on Monday next. We expect to get all our machinery in motion about the middle of next month (March), and to make the first sale in May, and to give one or two dividends of 1s. per share before the close of the present year.

DENEIGHSHIRE CONSOLIDATED.—R. Prince, A. Francis, Feb. 5: Stopping operations in the 65 west continue to produce about the same quantity of lead as previously reported. The 112 main lode east presents a good appearance, and we believe we are close to a fresh course of lead. We are busy at the washing-floor, and to-day have sold 6 tons of blue ore and 8 tons of grey, realising 130s. 10s.

D'ERESBY CONSOLS.—J. Roberts, W. Sandoe, Feb. 5: In driving south on the Cobler's lode the lode is getting more, and showing better signs of productivity. The end on the Red lode is very much improved, in that lode is more settled, and yielding spots of lead and blende; it is now a kindly lode. The Gorse heading is without any change; a well-defined lode, with an open joint on one side.

D'ERESBY MOUNTAIN.—J. Roberts, W. Sandoe, Feb. 4: The lode at bottom of No. 5 continues of equal productivity to what it has been for the month past. We have not yet ascertained the complete width of the lode. We have opened on it now for about 3 fms. wide, and still good lead showing towards the footwall. We have entered fully into the Gorse shaft contract, with which we are making good progress, and when the scheme is completed there can be no question but that we shall have a valuable and profitable mine. We have sampled this week 30 tons of lead.

DERWENT.—J. Mopeth, Feb. 3: In the few days which have elapsed since I posted the setting report there are a few changes in the value of some of the underground workings.—Jeffries' Shaft, Middle Vein: This vein in the 95, east of shaft, is 7 ft. wide, and worth 14 cwt. ore per cubic fathom. No. 1 stop in the back is 6 ft. wide, and worth 20 cwt. No. 2 stop produces 12 cwt. vein 3 ft. wide, and the flats, which are a little better, yield 16 cwt. ore per cubic fathom. Over the 92, west of shaft, the respective worth of the stopes is 12, 14, 10, and 14 cwt. of ore per fathom; vein of one width—3 ft. Sun Vein: This vein in the 70, east of shaft, keeps small and poor; 2 ft. wide, and yields 6 cwt. of ore per fathom.—Westgarth's Shaft, Middle Vein: The seven stopes in the back of the 93, east of shaft, are yielding 20, 10, 15, 12, 10, and 15 cwt. of ore per fathom respectively; average width of vein over 4 ft. The cross-cut at this level towards the north vein is across 2 fms. 5 ft. 8 in. We have set this cross-cut for 6 fms. at 4 ft. per fathom to six men, but to be increased to nine men as soon as convenient. In the 74, west of the shaft, is without change. Drawing, pumping, and dressing all in full work.

DEVON GREAT CONSOLS.—Isaac Richards, Feb. 5: Wheal Josiah—New South Lode Shaft: In the 130 west the lode is 2 ft. wide, composed of capel, quartz, munda, and a small quantity of copper ore. In the 115 west the lode is 1½ ft. wide, composed of capel, quartz, munda, and a little copper ore.

Wheal Emma Inclined Shaft: In Daves' cross-cut south, in the 190 east, the

ground is tolerably favourable, and good progress in driving is being made. In the 137 east, east of Friend's cross-cut, the lode is 2 ft. wide, composed of capel, quartz, munda, and a little copper ore of good quality.—New Shaft—New South Lode: In the 205 west the lode is 4 ft. wide, composed of capel, quartz, munda, and a little good quality copper ore. In the 190 east, capel, quartz, munda, and a little good quality copper ore. In the 175 west, east of Bartlett's mine, the ground continues tolerably favourable for mineral. In the 175 west, east of Bartlett's mine, on the north part of the lode, the lode is 4 ft. wide, and worth 2 tons of copper ore, or 6½, and 4 tons of munda per fathom. In the 115 east the lode is 4 ft. wide, composed of capel, quartz, munda, and a little copper ore of good quality. In the 100 east, on the south part of the lode, the lode is 3 ft. wide, and of a very promising character, being composed of capel, quartz, munda, and fluor, worth 2 tons of copper ore, or 6½, and 2 tons of munda per fathom. Railway Shaft: In the railway shaft, now below the 175 fms. 5 ft., the ground continues favourable for progress. In the 175 west the lode is 4 ft. wide, and worth 2 tons of copper ore, or 6½, and 4 tons of munda per fathom. In the 115 west the lode is 4 ft. wide, and worth 4 tons of copper ore, or 12½, and 2 tons of munda per fathom. In Fosse's mine, in bottom of the 160 east, the lode is 4 ft. wide, composed of capel, quartz, munda, and a little copper ore. In Outer cross-cut north, in the 145 fm. level west, the ground is not quite so favourable for progress.

DUBBY BYKE.—W. Vipond, Jan. 31: There is no change to report from the shaft; it is now down from the surface 14 fms. 3 ft.; sunk last month 2 fms. 1 ft.; 9 ft. more will give 10 fms. of vein, at which point it is proposed to drive off to the intersection with No. 1 Green Hurth cross vein.

EAST FLOHIDA.—J. Williams, Feb. 5: Since my last report I am glad to say that the works are progressing in a most satisfactory manner. Three large lodes have been opened upon, and their dip and directions taken. The second lode, no doubt, the great and champion lode of the district, which has produced in adjacent mines thousands of tons of lead ore above the adit level. In my report dated June, 1879, I called special attention to the opening of the back of this lode as it traverses the sett from east to west; the Ordnance Map indicates a lode of extraordinary width and grand mineralogical characteristics, such as are known in few other localities. The actual position of the lodes having now been ascertained we shall now proceed with the driving of the deep cross-cut from the southern boundary of the mine with all possible dispatch, so as to intersect the above lodes; I calculate that we shall have to drive about 6 or 7 fathoms, which will open up the most important features of the property, and in all probability place it amongst the richest in the county. The adit has been cleared from the mouth to the end, and the sides walled and backfilled, so that everything now is in a complete state of working order. As I before stated, the lodes are wholly to the surface. They are unlike old mines, which are in many cases exhausted before they are brought before the public; in this instance there is no necessity for a large amount of capital, either for the erection of machinery or for the drainage of old workings. The River Tyne runs close by the mine, and at all seasons of the year supplies sufficient water for cheap and effectual driving operations. The mine is also within a short distance of railway and road, securing easy means of transit, an advantage seldom met with in the mountains of Wales.

EAST LONGSTONE.—H. Harris, Feb. 3: We are pushing on here with all speed, according to instructions. The ground is harder for driving, but it is of a highly congenial nature for carrying mineral, and looks better in the western part of this range of mines, where nearly solid lead ore is being raised.

EAST ROMAN GRAVELS.—A. Waters, Feb. 2: The 97, south of boundary shaft, has improved a little since last week; now worth ½ ton per fathom. The 36 south is in a lode 3 ft. wide, also worth ½ ton per fathom. The 75 south is worth 1½ ton per fathom. The nine pitches throughout the mine are worth (averaging 8½ tons per fathom) our next sampling the usual time—weather permitting—will be 25 tons of lead ore and 20 tons blende.

EAST VAN.—W. H. Williams, Feb. 4: The level upon the cross-cut has been driven 24 fms. The lode in the present end looks rather more encouraging, and as we gain cover under the hill we may possibly expect a further improvement.

EAST WHEAL BULLER.—W. Tregay, Feb. 5: We are preparing the timber for the shaft on the great gossan lode. The lode is more than 20 ft. wide, and produces considerable quantities of tin. I do not anticipate having to sink the shaft a great distance before meeting with the tin, the district having been so long and extensive courses of rich copper ore near the surface, and the gossan of this lode being of the richest description.

EAST WHEAL LOVELL.—R. Quentrell, Feb. 4: We have commenced driving east and west at the bottom of Severgan shaft, and as the levels extend we find the lode quite as large and promising as in the shaft, and producing some fair quality tin stuff. We shall now proceed to erect horse-wheel, divide and case shaft, &c., preparatory to sinking below the level.

GRANITE (Stannogwyn).—J. H. James, Feb. 4: Since last report we have opened on the lode about 200 fms. further east, where I find it also highly productive. The lode will average 15 ft. wide for that distance, which at the present point we have opened will give reserves to the extent of 216,000 tons, and which from assay of the lode at different points will realise 34. per ton of lead; and should this yield extend in depth at the eastern shaft for the distance of the 200 fms., would be worth 648,000s. The masons will complete smithy, carpenter's shop, men's changing-house, material house, and office in the early part of next week. As soon as we have determined the best possible point for driving, drawing machinery, &c., we shall lose no time in proceeding with that work.

GAULTON COPPER.—G. Rowe, G. Rowe, Jan. 31: The lode in the 117 east still continues to show a very kindly appearance, being over 6 ft. wide, principally composed of arsenical and sulphur munda, mixed with good quality copper ore. The lode in the 105 east is carried over 5 ft. wide, yielding arsenical munda mixed with ore, worth 4 tons per fathom. The lode in the stopes in the bottom of the 105, east of mine, is worth 10s. and 12s. per fathom. The stopes in bottom of the same level, west of said mine, are worth 10s. and 12s. per fathom. In the 55, west of cross-cut, the lode is 7 ft. wide, and worth 12s. per fathom, with ore per fathom. The lode in the stopes in back of the 55, west of cross-cut, is worth 10s. per fathom. We sampled yesterday (computed) 55 tons of first quality copper ore, and retained about 120 tons of another quality ore for the next sale.

GLASGOW CARADON CONSOLS.—Wm. Taylor, Wm. J. Taylor, Feb. 2: The shaftmen are sinking for and cutting tip-plate at the 102 preparatory to sinking below this level. The 102 is driven east on new lode about 5 fms.; it shows some kindly appearance, about 7 ft. wide, and the lode is very favourable. The lode at this level we have not yet holed to the winz for the 90, but hope to do so in about a fortnight; this will be very important for ventilation. We have cut into the lode in the 90 west on north lode; it has an improved appearance, and good stones of ore; we hope to hole to the winz here soon. No change in the 90 east. This level east on south lode is worth 10s. per fathom. The ground in the 90 cross-cut south continues hard; we are pushing this on to the new lode as fast as possible. The stopes and pitches throughout the mine are turning out their usual quantities of ore, varying in value from 10s. to 18s. per fathom. Our next sale of ore is computed 150 tons, which will be sold on the 19th inst.

GLENNROY.—R. Rowe, Feb. 2: When I forwarded my report for the general meeting I said that the lode had been cut through and proved by a cross-cut in the bottom level north, and immediately after I set the men to drive on upon the old course—the hanging part of the lode—and am glad to say we have an improvement; the lode is now yielding good stones of lead, and looking very much better generally; so far it is not accompanied by any blende, I therefore think that we have yet to meet with that, and that the lode shortly we shall come up to a rich lode of lead and blende together. It is fair to expect this now by what we have already in the end, and the blende lode going down in the 60 above. There is now a good deal of quartz in the lode, and the lead is found in it; this is what we like to see, and I hope by its continuance will remove the apprehensions that it is a rock lode. It has undoubtedly shown much of this upwards, but it now shows to give way in depth to the usual quartz and matrix of the district, in which ore in quantities is found.

GORSIEDD AND MERLLEW.—J. Roberts, Feb. 5: We cannot proceed further with the sinking of the 60 sump until the 70 is further underneath it to drain the water from the bottom. The 70 east has been driven 2½ yards since last report, but the ground continues hard. In the 90 the men have sunk below the level 2 yards, and the ground improves very much as we go down; there is a rib of lead, blende, and spar over a foot wide, and it daily improves. The tribute pitches look well, and dressing is now going on.

GREAT HOLWAY.—Feb. 5: Fair progress is being made in the deepening of Roskell's shaft, but we shall get on better in the course of a few days. We have raised some very pretty-looking ore from the narrow rib seen in the cutting between the two shafts.—Garden Shaft: The stopes look well; the produce besides lead is 3½ tons of blende to the shaft. A splendid pile of blende, together with some rich lead ore, has been raised from Office shaft; also some good stuff from the 60, at the level engine-shaft. Our new manager has arrived, and a full report will be sent you in a day or two.

GREAT RETALLACK.—J. Harris, Jan. 31: I am pleased to tell you the 53 is all but drained, and I was able to go all through the level, but we have two or three days' work to put the level in repair and to raise the water from the level, &c.; but I have set the 53, east of shaft, to open by eight men, at 20s. per ton tribute for No. 1 blende and 10s. 6d. per ton for No. 2, for one month, the men to pay all cost to and their stuff to surface; the lode is large, fully 6 ft. wide, and worth fully 5 tons of blende per fathom, and I am hoping to get a good pile of blende from this place this month, and to resume dressing in a few days. I have also set the shaft to sink below the 13 by two men, at 30s. per ton, the month, or hole to the 30. We have about 5 fms. more to sink to reach the level. The lode is favourable for sinking, and is showing good stones of blende.

GREAT SNAPELL.—J. Kewley, Feb. 3: The lode in the 130 fm. level north is a little larger than when last reported, and we have a portion of it standing on the east side, and at present do not know its exact size. It is composed of good hard quartz, and little bits of lead and blende seen through it. To-day there is a little blende coming in by the footwall, and the end has been letting out a little water for the last few days, and been easier for driving. The rock drill continues to work very well, and is making fair progress considering the hard nature of the ground we are working in. The lode, on the whole, has a promising appearance.

GRIS HURTH.—Wm. Vipond, Jan. 30: Swan's Shaft: There is nothing new in this. It is still going on in the limestone. The east side of the 30 we are taking off near Vipond's sump is worth 6 tons of ore per fathom. The limestone puts on near the bottom on this side, and the vein seems a mass of ore below. We have this now 9 ft. wide, including the level. The north end of the 30, from Robinson's sump, is still hard, with less ore; it is now worth 2 tons of ore per fathom. The slope between the sumps is poor at present both ways; it is yielding 1 ton of ore per fathom. Pumping-wheel and dressing still standing owing to the frost, but we have the weather more mild this morning.

—Wm. Vipond, Feb. 4: Monthly Bargains: I see no difference in the Swan shaft; there is less water, but this may partly be owing to the weather. Down from surface last week end 8 fms. The south end of the 30 was driven last month 4 fms. 1 ft.; taking off the side near Vipond's sump 2 fms. 3 ft. and side has been very good, but is poor to-day; worth 2 tons of ore per fathom, and set to six men, at 55s. per fathom. The north end of the 30 has been very hard, but appears to be improving, both for driving and ore; it is now worth 2 tons of ore per fathom, and set to four or six men, at 13s. per fathom. Driving and dressing the stopes between the sumps are worth at present going north 2 tons of ore per fathom and going south 1 ton per fathom; set to four men, at 48s. per fathom. Stopped last month 8 fms. 9 ft. I have not put any more men to the north end yet, as I think I can make a better arrangement in another week's time. The six men who are working the east side of

Mining Correspondence.

BRITISH MINES.

ABERLYN.—John Roberts, Feb. 5: The lode in cutting through behind the No. 2 end is looking very well, and has very much improved since we commenced. The highest part of the stopes are now up to the No. 2 level, and to work them from this level we have a horse of ground standing between the level and the blende part which must be taken away, and I have been thinking whether it might not be better to commence stopping the bottom of the No. 2, clearing down the stuff from the stull as we may require it. The stopes on the soft lode is without change. The No. 3 cross-cut is without any change to notice since last week. The valley cross-cut is progressing favourably, but no change to notice in the ground. The dressing is going on regularly.

BEDFORD UNITED.—H. Goldsworthy, Feb. 4: No lode has been taken down since last report, except in the winz sinking in the bottom of the 115 fm. level, and as far as seen it is worth 8s. per fathom. The winz sinking in the bottom of the 127 has been communicated to the rise in the back of the 133 fm. level, which has greatly improved the ventilation in both levels. No other change to notice.

BELL VEAN.—James Bray, Jan. 30: I have bought the fan machine, and as ordered, the pipes, which will be all made this week. We shall commence to fix the same as soon as possible, I should think about Tuesday or Wednesday next. We shall fix the machine outside Mitchell's shaft, so that we can command any part of the mine without moving it. I think we have bought a very good machine. We shall put on more men on Monday. I can assure you the work will go on with all possible speed.

BETWIS-Y-COED.—M. H. Whitford, Feb. 4: Setting Report: The 30 to drive east of flat-rod shaft, as directed, by six men, stent 2 fathoms, at 10s. per fathom; the lode is from 2½ to 3 ft. wide, yielding about 15 cwt. of lead per fathom, and has a very kindly appearance. An improvement is expected in this end, as there are good runs of lead gone down in the bottom of the level above. A stop in the back of the 30 fathom level, west of flat-rod shaft, by two men, at 32s. 6d. per fathom; the lode is yielding 16 cwt. of lead ore per fathom. A stop in back of the 20, east of the flat-rod shaft, by two men, at 25s. per fathom, yielding 8 cwt. of lead ore per fathom. To drive the deep adit end east, by four men, at 3s. 15s. per fathom; this end has a very promising appearance, water issuing freely, and some good stones of lead; further improvement is daily expected. No. 1 stop, in the back of the deep adit level, east of engine-shaft, by two men, at 28s. per fathom, yielding 5 cwt. of lead ore per fathom. No. 2 stop, in back of the deep adit level, east of the engine-shaft, by two men, at 22s. 6d. per fathom; the lode is yielding 4 cwt. of lead per fathom. A stop in the back of the shallow adit level, by two men, at 30s. per fathom; the lode is yielding 10 cwt. of lead per fathom. I have put two men to work on the north part of the lode, in the 20, east of the flat-rod shaft; this part will yield from 13 to 20 cwt. of lead per fathom. Dressing is progressing satisfactorily.

BLAEN CAELAN UNITED.—J. G. Green, Feb. 4: I am glad to say that we have intersected a strong, promising lode in the cross-cut south of the brook; it is composed as far as cut into of nice-coloured kila, with spar and carbonate of lime, and containing spots of copper ore. It has a regular east and west bearing, and underlies north from 20° to 24° in a fathom; I am hoping to find lead on the south wall when reached. It is impossible to say what width it will prove to be, but at the Esgrair-hir Mine to the east it is fathoms wide, and produces lead and copper in great masses; all the features are favourable with us for its giving equally as rich. Working has been carried on with energy for the week in the old mine with good results. The stopes in the back of the 30 has very much improved, worth 1½ ton of lead per fathom, and appears to be lengthening westward. The stopes in the back of the 20 is worth 1 ton per fathom, and it also is lengthening westward. I have put two men to drive west from the end of the stopes; the lode is worth 1 ton per fathom. I am pleased to be able to report that we are clear of roof at surface, and have commenced dressing.

BODIRIS.—H. Hotchkiss, Feb. 4: Meadow Shaft: We are getting on very well in clearing up this shaft; the shaft machinery is working very well, and we do not find the water at all troublesome yet, but I find that the shaft has been sunk deeper than anticipated. This, however, is greatly in favour of the present company. We are now down 87 yards from surface, and are not upon the bottom yet. The shaft is in good condition so far as seen. The carters are delivering the ore which was sold last week; we shall complete the delivery of this to-morrow.

BWLCH UNITED.—N. Bray, Feb. 4: I am pleased to say that a general thaw has set in. The mine is drained to bottom, penthouse completed, ground for windlass cut, and sinking the shaft resumed below the 100 by nine men. No work has been done in the 100 since my last report, but the driving will be resumed to-day. I find it essential to provide an air machine and pipes for giving ventilation to the large number of men employed in the bottom, and until this is done I propose to lessen the hands in the end, so as to carry on the shaft with the full force. The lode in the 80 driving east is still the full width of the end, but without any alteration to remark on as to produce or appearance. The rise

shaft is down about fms. 2 ft. in a compact, and what looks like a lead-bearing rock. We have had small bits and some cake-like pieces of lead ore in the joints of the country lately, which we think are good indications. The 25 below East Stope No. 2 is working in a lode 6 ft. wide, where at the present 12 cwt. We are not east far enough here to catch the dip of the old men's run of ore ground. The 25 west is in a lode 18 in. to 2 ft. wide, with small bits of ore, but not to value. This end, however, looks like improving for lead ore shortly. The pitches (15 in number) are yielding ore in quantities as for some time past. Our sampling to-day is 80 tons of No. 1 quality ore. The frost has prevented us getting any of the 20 stuff.

WEST TEMPLE.—J. Slack, Jan. 29: West End Forehead: There is an improvement in this working in the quantity of lead ore, and a more mineral-like place could not be desired. It is slightly hanging to the west, and I think it will just about pay the cost of driving.—West End Stope No. 1: This working has gone gradually poorer both top and bottom. The drift was poor when driven through this piece of ground, but seems to open out again a few feet further on. I should not think it will do more than pay the cost of working at the present.—West End Stope No. 2: There is not any alteration in the lead ore, while good payable lead ore is still being obtained. The rise in the back of the 25 west can be set on, which will catch the roof, and bring it away before them. There is a length of good ground between here and No. 1 stope. Dressings are still sopped with the frost, and the house is accumulating.

TEMPLE.—Feb. 4: The lode in the No. 2 level taken down this week is decidedly improved—7 ft. wide, with two leaders, one on the north and one on the extreme south part of the lode, which appear to be coming together further up. The 10 west is now running better, and is making a little more, being set by six men at 9¢ per fathom. We have stopped away the ground in the No. level near to the winze, and shall immediately prepare for sinking below that level in a rich course of lead. The other stopes in the Nos. 1, 2, and 3 levels are producing the average quantity of lead. The weather being milder, surface operations are again resumed.

WEST ASHETON.—Joseph Garland, Feb. 4: Saturday last was our setting day. The engine and last month's 5 fms. to 6 ft. 3 in., the lode fluctuates a good deal in character; it sometimes looks most promising, and then again becomes small and valueless; at present it is 2½ ft. wide, and contains a little blende. This level is now in 33 fms. 5 ft. 7 in. from the main cross-cut. The 60 west was driven 4 fms. 5 ft. 11 in., and is now in about 14 fms. from Hunt's cross-cut. The ground is much easier for driving, but the lode is disordered, and of no value. Hunt's cross-cut, going south from this level, was driven 3 fms. 0 ft. 2 in.; there is no change in the rock, so that formerly there were at least three tribute pitches worth 10¢ per fathom. The rise in the back of the 25 west can be set, and holed through to the 40, and four men have commenced stopping west of the rise; the stope is 10 fms. in length, and varies in value from 2 tons to ¾ ton of lead ore per fathom. The 40 west was driven 5 fms. 4 ft. 10 in.; the lode is small and poor; the ground by the side of the lode is a soft killas, and easy or driving in. No. 2 stope, in the back of the 40, maintains its value of 2 tons per fathom. The lode has not yet been taken down in No. 4 stope in the same level. The rise in the back of the 10 west, on the level of the 25 west, has been communicated to the 30 level, improving the ventilation in the 30 east, the driving of which we hope to resume shortly. The driving of the 30 west has been resumed, but the lode has not yet been taken down. The lode in No. 1 stope, in the back of this level, is valued at 1 ton per fathom. The lode in No. 2 stope, in the back of the same level, yields ½ ton per fathom. Dressing is going on regularly, and we shall sample our usual parcel of lead ore next Wednesday.

WEST LILWAX.—Capt. Rowlands, Feb. 5: We are making great progress in the new shaft, and I am glad to say the lode improves every inch we go down, producing lead embedded in spar. I believe ere long we shall be in a splendid course of ore.

WEST VOR.—S. Harris, Feb. 5: The shaft sinking below the adit level, on the Great Vor lode, is now down 3 fms. 1 ft.; the lode continues over 3 ft. wide, with rich copper and tin disseminated throughout—a fine-looking lode. We are saving all the lode for mineral.

VOR.—Feb. 5: Taylor's Shaft: The lode in the 155, driving west of shaft, is 4 ft. wide, yielding ¼ ton of copper ore per fathom. The lode in No. 3 winze, below the 145, west of shaft, is 3 ft. wide, yielding 2½ tons of ore per fathom. The lode in the 135, driving west, on south part of the lode, is 4 ft. wide, yielding tones of copper ore. The lode in the 125 east, on the south part of the lode, is 3 ft. wide, but unproductive. The lode in the 110, on the south part of the lode, is 3 ft. wide, yielding 2 tons of ore per fathom. The lode in the stope in back of the 155, west of shaft, east of No. 2 winze, is 5 ft. wide, yielding 2 tons of ore per fathom, worth 12¢ per fathom. The lode in the stope in the back of the 155, east of No. 1 winze, is 2 ft. wide, yielding 2 tons of ore per fathom, worth 12¢ per fathom. The lode in the back of the 145, east of No. 4 winze, is 2½ ft. wide, yielding 1½ ton of ore per fathom, worth 9¢ per fathom. The lode in the back of the 145, west of No. 4 winze, is 2 ft. wide, yielding 1 ton of ore per fathom, worth 12¢ per fathom. The lode in the stope in the bottom of the 145, east of No. 2 winze, is 3½ ft. wide, yielding 1½ ton of ore per fathom, worth 9¢ per fathom. The lode in the stope in the bottom of the 145, west of No. 1 winze, is 3 ft. wide, yielding 3 tons of ore per fathom, worth 18¢ per fathom. The lode in the stope in the back of the 125, west of shaft, on the south part of the lode, is 4 ft. wide, yielding 2 tons of ore per fathom, worth 12¢ per fathom. The lode in the stope in the back of the same level, west of shaft, is 3 ft. wide, yielding 2 tons of ore per fathom, worth 12¢ per fathom. The lode in the stope in the back of the 125, east of shaft, is 4 tons of ore per fathom, worth 24¢ per fathom.—Richard's Shaft: In the 105, west of shaft, the lode is 3 ft. wide, composed of spar and capel, but unproductive. The 95, west of shaft, is 4½ ft. wide, and yielding 6 tons of ore per fathom. In the 85 west the lode is 2 ft. wide, but nothing of value. The lode in the 65 vest is 1½ ft. wide, yielding occasional stones of mudicant copper ore, looking promising.

WHEAL GREBOR.—J. Andrews, Feb. 3: The lode in the 120 east is worth 100¢ per fathom. The north part of the lode driving west at the same level is worth 60¢ per fathom. The stope in back of the 120 west is worth 80¢ per fm. The lode in the 108 east is 6 ft. wide, yielding stones of ore. The new lode in the 108 east has farther improved, and is now worth 60¢ per fathom. We have communicated the 108 cross-cut south with the new lode, which has given good ventilation, and enables us to set another stope behind the end, which is worth 50¢ per fathom. The No. 2 or west stope, in back of the 158, on new lode, is worth 40¢ per fathom. The north part of the 72 east is made of capel, and is progressing in sinking the new shaft below the 48. The 48 end men are at the present time engaged clearing stuff accumulated before the new shaft was holed to the 48.

WHEAL GRENVILLE.—T. Hodge, Feb. 5: I see no change in the bargains worthy of any note since my last. The mine is looking very well.

WHEAL UNY.—Wm. Rich. M. Rogers, Feb. 4: The 172 end, west of old engine-shaft, is worth 8¢ per fathom. The 160, west of incline shaft, is worth 9¢ per fathom. We have begun to drive east of the 160 cross-cut on the lode, which is worth 12¢ per fathom. We think this lode mixes with the main lode in the 150, east of shaft, and we have stripped down the side of the level at the point of junction, and find the north lode to be worth about 12¢ per fathom, and apparently diverging from the main lode going west. There is nothing of importance yet intersected in the cross-cuts.

VAN MINES—MONTHLY REPORT.

Feb. 4.—As under please find my monthly report upon this mine, and coupled therewith the setting list:—The 120 West: At this end we have communicated with the 60 winze from the 105, and have resumed the driving of the level westward upon a very strong lode, well mixed up with blende, showing good patches of lead, and letting out much water; set to six men, at 130s. per fathom. At a point about the width and value of the lode, which in the level produces pretty good orestuff, set to four men, at 80s. per fathom. The 105 has communicated with the 150 fm. winze (from the 90 west). At the present end of the level we crossed north 7 ft. and found the lode intermixed with small strings of lead. For the next two months we shall have a pair of men stripping down the lode to full width behind the present end to prepare for stoping, where is a lode, on the average 2 tons per cubic fathom for leverage; set to six men, at 70s. per fathom. The intermediate level in the back of the 105 west is set to four men to drive west of the 35 fm. winze, at 160s. per fathom; produce at present chiefly blende, but we expect to get hold of the ore ground seen going down in the bottom of the 90. The two stopes in the back of the 105 west (90 and 100 fm.) are set to eight men, each at 50s. per fathom; width of lode, 18 ft.; average produce, 2 tons of lead ore per cubic fathom. The winze at the end of the 90 west having been communicated with the 105 we have set two men to cross-cut north to prove the width and value of the lode, and when this is accomplished we shall drive the cross-cut towards Edwards' shaft; the cross-cut is set to four men, at 100s. per fathom. The stopes in back of the 90 (five in number) are on the average 20 ft. wide; worth 31 cwt. of lead ore per cubic fathom; set as follows:—The 140, to eight men, at 42s. 6d. The 80, to eight men, at 50s. The 60, to eight men at 75s. The 40, to six men, at 40s. The 20, to eight men, at 40s. per fathom. The 75 fm. permanent level west is set to four men at 85s. per fathom. The stopes in the back of the 75 are on an average 30 ft. wide, and worth for lead ore 23 cwt. of lead ore per cubic fathom. Set as follows:—The 100 to eight men, at 45s. The 20 to eight men, at 47s. 6d. The 50 to eight men, at 45s. The 30 to eight men at 45s. The stope in the back of the 60 are on an average 15 ft. wide, and worth 1 ton of lead ore per cubic fathom. Set as follows:—The 60 to eight men, at 72s. 6d. The 40 to eight men, at 72s. 6d. The 8 fm. stope to eight men, at 75s. The stope in the back of the 30 east is 14 ft. wide, and worth 18 cwt. of lead ore per cubic fathom. Set to six men, at 67s. 6d. per fathom. The trial cross-cut south at the 30 west has been driven 100 yds. into the clay wall, and that incline for the most towards Edwards' shaft; the best leads, through which we crossed along a well defined joint on the hanging-wall, with indications of its becoming productive. Set to four men at 55s. per fathom. The rise in the back of the 45, under Edwards' shaft is up 8 fms. This pair of men have contracted for the completion of Edwards' shaft from the 20 to the 45 for 180s. per fathom.

North Lode: We have two men costering for this lode. We have not yet found it, but believe from what we have seen in the clay while clearing for the rock that we must be very close to it.—Edwards' shaft: We have completed the incline for emptying slime-pits, fixed the drawing machine and engine, and constructed a shed over both. Our monthly sale takes place to-morrow upon 200 tons of lead ore and 75 tons of blende.—**W. H. WILLIAMS.**

HOLLOWAY'S PILLS AND OINTMENT—THE MOST EFFECTUAL CURE FOR GOUT AND RHEUMATISM.—A frequent cause of these complaints is the inflammatory state of the blood, attended with bad digestion, lassitude, and great debility, showing the want of a proper circulation of the fluid, and that impurity of the blood greatly aggravates these disorders. Holloway's pills are so purifying and salutary to the system, that they are in time an effectual preventive against Gout and Rheumatism, but anyone that has an attack of either should use Holloway's ointment also, the powerful properties of which, combined with the effects the pills, ensure a certain cure. The ointment should be thoroughly rubbed into the parts affected at least twice a day, after they have been sufficiently fomented with warm water to open the pores to facilitate the introduction of the ointment to the glands.

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**THE FORTESQUE (STANNAGWY) NATIVE TIN, COPPER
SILVER AND ARSENIC COMPANY (LIMITED).**
The discovery recently made in this mine continues to hold good, and the
serve of ore already laid open are equal to £500,000, and the capital of
company paid-up is only £7000. Investors may judge for themselves the po-
table profits to be derived from working this property, which is as inexpensive
as any in Cornwall. The shares are firm, but much under their value at 30s.
fully paid, which is valuing the mine at only £10,500, the cheapest investment
in the county.
Further information or shares, may be had of THOMPSON and SON, Secretaries,
1, Abchurch Lane, Street, Plymouth.



Notices to Correspondents.

GOLD IN WALES.—"R. W." upon sending name and address to S. Farr, 8, Tunnel-road, Liverpool, will receive the information he seeks.—S. FARR.

If Capt. Cocks, who was some years ago an agent at East Nant-y-Mwyn Mine, will communicate with Capt. Absalom Francis, of Goginan, Aberystwith, an agency awaits him.

Received.—"Mercator" (Sunshine)—"T. J. P." (New York)—"R. A." (Sydney)—"A. D. M."—"L. T. C."—George Sparke" (Ashburton)—"O. S." (Bristol)—"E. D."—"J. P." (Ponterwyd)—"J. S. L."—Shareholder" (West Peavor)—"J. D. S."—"H. T." (St. Leonard's)—"F. G. S." (Bath): Should write to the secretary of the Geologists' Association, University College, who will readily send the particulars.—"T. G. B."—"J. E." (Oldham)—"F. G. S." (Cork)—"A Shareholder in both Mines"—"W. Tregay" (Redruth)—"A Shareholder" (Truro)—"S. C."

* A great pressure on our space compelled us last week to postpone the publication of many matters intended for insertion. Several of these will appear this week, and others as opportunity offers; but most of them, however, will have to be written again by those who are interested.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, FEBRUARY 7, 1880

EMPLOYERS' LIABILITIES FOR INJURIES.

With the opening of Parliament we have presented to us a new Bill to extend and regulate the liability of employers to make compensation for personal injuries suffered by persons in their service. It is a very modest measure as compared with the Bill that is to be again brought forward by Mr. MACDONALD and Mr. BURT, and which proposes to make masters liable for injuries sustained by their servants to the same extent as injuries to third parties. The new measure, which stands every chance of becoming law, will not satisfy the leaders of the mining body, the class in whose behalf a workman's Compensation Bill has been so persistently clamored for. Yet to those who take a dispassionate view of the existing law relating to masters and workmen it will be evident that no fresh legislation is necessary. By the law at present in force a master is always responsible for injuries caused to his servants from personal fault or negligence, so that if from motives of economy or the disregarding of ordinary care and precaution, or in consequence of using defective machinery or employing incompetent workmen an accident takes place, he is responsible for the result; but in the absence of personal fault he is not liable for the carelessness or negligence of his servants, which the member for Stafford contends he ought to be. That is, should a miner open his safety-lamp and an explosion be the result, the owner, in addition to suffering heavy pecuniary loss in the injury done to his property, would have to give compensation for the loss of life or injury done to the persons he had employed. The new Bill, which is a short one, does not go very much further than the existing law. It provides that—1. Where after the passing of this Act personal injury, whether resulting in death or not, is caused to a workman by reason of any defect in the works, machinery, plant, or stock used for his employer's business, or the wrongful act, neglect, or default of any person of any superior grade in the service of the employer, whether in the same department of service with the workman injured or in any other department, or the wrongful act, neglect, or default of any person in the service of the employer, being a person to whose orders or directions the workman injured was bound to conform, or the wrongful act, neglect, or default of any person in the service of the employer, done or committed in obedience to the employer's rules or bye-laws; or in obedience to instructions given by any person to whom the authority of the employer in that behalf was delegated; the workman injured, and in the event of his death the executor or administrator on behalf of his family, shall have the same right of compensation and remedies against his employer as if the workman injured had not been a workman of, nor in the service of, the employer, nor engaged in his work, provided that this section shall not apply where the workman injured materially contributed by his own negligence to the cause of his injury. Such is the first and principal clause, the others relating to the mode of action and the Courts in which they are to be tried. The second clause provides that "Every action by a workman or his executor or administrator for recovery of compensation under this Act, in which a sum not exceeding 200*l.* is claimed, shall be brought in a County Court, and not elsewhere. Upon the trial of any such action in a County Court one or more assessors may be appointed for the purpose of ascertaining the amount of the compensation."

Rules as to the appointment and remuneration of the assessors and all matters of procedure may be made and varied from time to time, or repealed in the same manner as rules for regulating the practice and procedure in ordinary actions in County Courts. A measure such as this, as we have before remarked, will not be accepted by the Members for Stafford and Morpeth as representing the miners of the country, who seek for a sweeping change completely subverting the existing law. But why the law should be altered in the interest of the miners, and at the instance of their representatives, is a problem which cannot be easily understood. It is, of course, stated that mining is a dangerous employment, and that those engaged in it are liable to be suddenly cut off by explosions, falls, and other means unknown to those following other occupations. It is true that nearly 1000 lives are annually lost in the working of coal mines, yet if we take navigation, mining, and railways, mining is by far the safest. In 1877 the total number of persons employed on board merchant ships (sailing and steam) at home and abroad was 216,881, and the number of lives lost was 2042, or 106 persons per life lost, or 0.94 per cent. In 1873 the number of persons employed on railways and liable to accidents in the United Kingdom was 195,130, and the number of lives lost was 773, or 252 persons employed per life lost, or 0.39 per cent. In the year 1877 the number of persons employed in and about mines in the United Kingdom was 494,391, and the number of lives lost was 1208, so that there were 409 persons employed per life lost, or 0.245 per cent., and if we take the seven years ending with 1877 the number of persons employed about mines was 445 per life lost. We have it, therefore, that the occupation of a sailor is nearly four times more dangerous, and the pursuit of a railway servant is more than one and a half times more dangerous than that of a miner, and this would seem to prove that if the pursuit of a miner is exceptionally dangerous the precautions taken by his employers for his safety are much more exceptionally perfect. Such facts as these are not so well known as they ought to be, and we agree with Mr. BUNNING, who has taken great pains to make known the state of the law on the Continent with respect to mining, that the getting of coal is not so dangerous an employment as many persons suppose, and that such figures as we have quoted are all the more worthy of attention from the fact that it pleases many persons to attach considerable moral obloquy to those who possess or who are employed in managing mines. But, as we have often pointed out, the deaths in our mines are too often caused by the men's own negligence or carelessness. More men are killed from falls than from any other cause, and this in most instances is the result of not propping the roof at certain distances, yet according to the views of Mr. MACDONALD and others the employers should be held responsible for the men's negligence. Men employed in mines, it may also be said, are aware of the risk they run, and this element is taken into consideration in fixing the rate of remuneration, the same as in other employments of a dangerous nature, or where great care is necessary to ensure the safety of the workmen.

As to the liability of workmen and third parties Mr. BUNNING furnishes us with a happy illustration. A seaman at the helm of a ship in a storm does not bring her up sufficiently to meet an unusually high wave, and in consequence the ship receives serious injury to her bows, and two seamen lose their lives. Again, another seaman puts the helm a shade too far over in nearing a public jetty in a heavy tideway, and carries away two or three piles on which

stood several persons, some of whom were injured and some killed. Now, both these accidents were the result of two causes—first, an error of judgment; and, second, the force of the elements. In both lives were lost, yet in the one case the sufferers were engaged for hire in one common and hazardous enterprise, to the carrying out of which to a successful termination they were all bound by the duties of their engagement, which from the nature of things extended their risking their lives for each other, and for the success of the speculation; whereas the other sufferers were simply in the exercise of their right to be on the pier, which they enjoyed in common with all, and had no part whatever in the venture of the ship, could only legally undertake, so long as he did so without interference with the rights of others, and in places where he had a right to be, the space occupied by the piles of the jetty being clearly outside of this limitation. Miners, railway servants, and sailors contract to perform certain work, dangerous it may be and requiring great care, for a certain remuneration, and, therefore, cannot expect to receive compensation if they are injured by their own negligence or the negligence of others in the same employ. The employer at present is responsible for injury to his workman for any act of his own or the person representing him, and that we consider is all that can be equitably required, so that further legislation in the same direction is unnecessary, and would impose a serious and unfair burden upon masters from no fault of their own. In most of our mining districts owners have subscribed liberally to funds for the purpose of permanently relieving the sufferers from those sudden fatalities which frequently take place in connection with mining operations, and that is another reason we consider for not disturbing the present relations between masters and workmen by special and class legislation.

AMERICAN LOCOMOTIVE BUILDING.

A pretty good proof—if, indeed, any proof were wanting—of the revival of the American railroad interest is afforded in the fact that the Baldwin Locomotive Works, at Philadelphia—the largest works of the kind we suppose in the United States—made last year 420 locomotives. The corresponding number of engines manufactured in 1878 was 292; in 1877, 185; in 1876, 232; in 1875, 130; in 1874, 162; and in 1873, 437. It will be remembered that in 1873 the American railroad interest acquired a feverish—and, as the result proved, an undue—activity. In 1874 a severe reaction set in, and the production of the Baldwin Works experienced, as our figures show, a sharp contraction. There was no recovery in 1875, but matters changed for the worse if anything. In 1876 and 1877 there was, upon the whole, some improvement, and in 1878 this improvement became marked and decided. Last year was a time of prosperity for American railroads, and it was also by consequence a season of activity at the Baldwin Works. The increase in the orders for locomotives at the Baldwin Works in 1879 proceeded principally from American railroad companies, but the works received also orders from South and Central America, as well as from Australia and New Zealand. As regards New Zealand, it may be observed that the traffic on the Christchurch and Invercargill, one of the longest lines yet constructed by the New Zealand Government, is worked almost exclusively by American locomotives, most of them made at the Baldwin Works. American locomotives from their greater flexibility are, perhaps, better adapted for new lines in young countries; that is, for lines the road-bed of which has not been completed with quite so much care as would be brought to bear upon similar road-beds in Great Britain and Europe. Thanks to the ingenious resource of an American engine driver and the flexibility of his engine an American railroad train passes in safety over a line at which an English railway man would very possibly stand quite agast.

The figures which we have recently given in illustration of the course of locomotive building at the Baldwin Works show that American railroads recover with marvellous rapidity not only from depression, but even from ruin. The Northern Pacific Railroad came to grief in the autumn of 1873 and for the remainder of that year, and all through 1874 it was practically a ruined enterprise. But in 1875, 1876, and 1877 the Northern Pacific, having been "reconstructed," began by painful steps and slow to again make some progress. The process of recuperation continued all through 1878, and in 1879 the concern may be said to have been once more in full swing. During the past season the company has laid 60 miles of track, graded 140 miles of roadway, and provided for the completion of its line to the Yellowstone by Sept. 1. The company has re-laid its track from Brainerd to Fargo—138 miles—and it has built nine freight depôts, while private individuals have built grain elevators and store-houses at 16 stations. The company has further added 10 locomotives and 100 cars to its rolling-stock, and it has contracted for 10 more locomotives and 100 cars to be delivered early next spring. The company is also this winter increasing its dockage at Duluth, and assisting in the building of a new elevator at the same point. This is how collapse in the United States one year is converted into prosperity and progress a few years later on, and this is how the American locomotive trade becomes so active.

THE LEYCETT COLLIERY EXPLOSION.—The prosecution of the manager, Robert Stevenson, and William and George Burgess, butties, at the Leycett Colliery, in connection with the explosion there in September last, came to a close at Hanley, on Tuesday. The charges against Stevenson were that he neglected to exercise proper control and supervision over the men, and that he neglected to adequately ventilate the mine, and omitted to render true reports of the state of the ventilation. The prosecution was ordered by the Home Secretary, and the evidence of the Government Inspector of Mines went to show that the working of the pit, which had been but lately opened, had been conducted in a manner which must inevitably lead sooner or later to an explosion. William Burgess had contracted to do the work, and he had disobeyed the orders of the manager, who for ten days before the explosion did not enter the pit. For the defence it was urged that the pit was ordinarily safe and well ventilated; that the explosion was due to extraordinary causes; and that the reason of Stevenson's absence from the pit was his necessary attendance in another pit where a fire raged, and that he was not required by the Act to descend the mine daily. The charges against George Burgess were dismissed. William Burgess was convicted, but owing to the fact of his lying idle from injuries received in the latest explosion a mitigated fine of 20*s.* was imposed. Stevenson was convicted on both charges, and fined 5*l.* and costs in one, and 10*s.* and costs in the other.

THE MEASURING OF FIRE-DAMP IN MINES.—Several inventions have been made public at various times for indicating the presence of fire-damp in mines, and determining as near as possible the amount. Mr. Ansell invented a remarkably nice and sensitive instrument for detecting gas, and we recollect it was tested in the well-known Oaks Colliery, but for all practical purposes it was considered as not calculated to be of any material advantage in the workings of a mine. Now we have another instrument, invented by Prof. FORBES, of Glasgow, called the Damoscope, which has been devised for the purpose of measuring the quantity of fire-damp in a mine at any time. The instrument is made on the tuning-fork principle. Over the mouth of a straight brass tube is fixed a tuning-fork, having a particular note, suitable to the length of the tube. Inside the tube there slides a second, and, of course, a smaller one, which admits of the lengthening of the tube. By turning a screw the motion of the internal tube backwards and forwards is regulated, and thus records the length of the tube on a dial placed on the stem of the instrument by means of a needle or pointer. By calculation the readings are converted into percentages of fire-damp, and as such are engraved on the dial. All the workman has then to do to see the amount of fire-damp in any part of a pit is to take the instrument there, and having set the fork in vibration to turn the screw till the maximum sound is emitted. The dial may then be read by the light of the safety-lamp, or the instrument can be taken to another part of the pit if the workman considers the one he is in is dangerous. The dial can be fitted with a phosphorescent or self-luminous material, so that the figures can be seen without a flame or lamp. The instrument is evidently a most sensitive one, and well calculated to show the amount of gas in any part of a mine, but we are not aware that any miner would under

any circumstances be at the trouble of obtaining an instrument to measure the fire-damp in the place in which he was working. The safety-lamp he always sees, and by that he knows pretty well how it is circumstanced with respect to air and fire-damp, and it is not likely that men would be kept for going into the various places for the purpose of measuring the gas, for it might happen that just as such had been done there would be a heavy discharge of gas from the strata, for accumulations are not always the work of time, but come on rapidly, and without notice. Then there are sudden outbursts from the floor, which fill every place with fire-damp and put out the best of safety-lamps before the men have time to do more than make their escape to the bottom. This we have shown on several occasions to have been the case, and under such circumstances we cannot see of what advantage the Damoscope would be. Miners are generally content on getting the minerals for which they are paid, and as they do not always find time to put in sufficient props to secure their own safety, they would not be likely to trouble themselves about the gas. Mineowners, too, could not be expected to find a staff of men to go into the various working places to measure the fire-damp. The invention, however, appears to be a most ingenious one, but we should like to know how it could be practically applied without adding to the present heavy cost of working mines.

THE PONSARD STEEL PATENT COMPANY.

There is no longer a question as to the reality of the revival which has been so beneficially experienced in all our national industries during the last six months. The most important factor in this notable improvement has been iron, which has once more asserted itself to be King. Under this generic title, of course, is included steel, which has shown an unprecedented development, and which has been so much reduced in price without deterioration of its intrinsic qualities of strength, lightness, flexibility, and durability as to be much more largely employed for old purposes, as well as extensively utilised for new. The home manufacture of steel has been mainly conducted on the well-known Bessemer and Siemens-Martin processes. A new and formidable competitor, however, is quietly coming to the front, and will soon try conclusions with its old-established rivals.

M. Ponsard, the inventor of the Converting Furnace bearing his name, is managing director of the Société Metallurgique de France, and also of the Ponsard Steel and Iron Works at Creil, near Paris. The exposition of his process made a great impression upon the scientific experts assembled at the late French Exhibition, and he has patented his process for the Continent, England, and America. A technical description of the invention would be out of place here; suffice it to say that it consists of a regenerative gas furnace, the hearth of which is moveable, and contains air tuyeres; that it professes to save a considerable expense of fuel, also of time, for each operation, and consequent wear and tear of the furnace; that the metal while under treatment can be repeatedly tested; and that thus any precise temper of steel required can be obtained, while the Ponsard converting furnace is equally adapted for producing the best qualities of steel from pig-iron alone, or mixed with any proportion of scrap-iron or old rails. The Ponsard furnace can be erected at much less expense than any other, and of a size capable of producing 20, 30, or even 50 tons at a single operation, which is of great importance in the manufacture of large castings and forgings.

Such are some of the advantages which M. Ponsard's process claims over prior methods, for the validity of which it is not our part to vouch, but to bring it under the notice of our readers is quite within our proper functions, especially as the Ponsard Steel Patent Company (Limited) has not until now made any appeal to the trade or the general public. The process is adapted to make steel from Cleveland or other phosphoric iron, and it only remains to add that a Ponsard furnace is by agreement now in course of erection at the Witton Park Works of Messrs. Bolckow, Vaughan, and Company, of Middlesbrough, who are ever ready to appreciate any sound invention, and whose skill and enterprise have deservedly placed them in the van of this great branch of our national industry.

MODERN MECHANISM AND ANCIENT ART.

That the taste of the workman, and, indeed, of all classes of the community, is developed in proportion to the opportunities available for becoming acquainted with the best models previously produced, just as his skill and dexterity in his trade is developed by receiving the best possible instruction from those of greater experience in his craft, is evidenced by all we see around us, and although we are still far from perfection there can be no reasonable doubt that the efforts of the last few years to induce our artisans to give increased attention to technical and art studies have been productive of great advantage both to the workmen themselves and to the industries with which they are connected. The improved taste and judgment displayed in the English exhibits in almost every branch of trade was specially noticed by the most experienced critics at the recent international gathering at Paris, and it was admitted that whilst British manufactures had lost nothing of their strength and solidity, the want of elegance, previously a common cause of complaint, was no longer observable.

It is essential in order that England should maintain that commercial pre-eminence to which she aspires that her manufactures should be known in all the markets of the world for the strength and durability which has always characterised them, combined with that perfection of grace and elegance which has been obtained by the foremost nations, whether ancient or modern. For this the art models must be brought to the workman's door, or to be more accurate, facilities must be afforded to every workman to study within the manufacturing centre in which he is located the most celebrated gems of art. Hitherto this has been altogether impracticable, owing to the enormous cost of reproduction with any approach to that accuracy which is essential for the purpose in view. It was, however, demonstrated on Tuesday, at the well-known Maison Marryhac, in Regent-street, that this heavy cost is no longer necessary, inasmuch as by the aid of an instrument which they are now employing in their ateliers they can reproduce an absolute facsimile of the most delicate fine art object at a price which leaves nothing to be desired.

The instrument originally invented by Mr. F. Sauvage, and perfected by Messrs. F. de Marryhac and G. Hubmann, is as simple as it is efficient, consisting of a steel pantograph, mounted on a ball and socket joint, so that it can be turned to every possible angle necessary for reaching the minutest irregularities in the model to be copied. The pencil is replaced by a chisel or graver, and the machine is ready for use, the models being so connected by an automatic arrangement with the mass of plaster, or other material destined to become the copy, that once in position they will retain their position relatively to each other until the work is finished. This automatic arrangement is, perhaps, the most ingenious in the entire apparatus, since it avoids a vast amount of inconvenience in manipulating the pantograph, and permits of absolute accuracy being obtained in back, front, and sides of the model. It need scarcely be stated after thus describing the apparatus that augmentations and diminutions from the size of the original can be made with equal facility, and the extraordinary accuracy attained cannot be better illustrated than by mentioning that in the reproduction of a plaster cast—the reproduction being about one-tenth the size of the model—even the mould lines which had not been smoothed off were as plainly represented as in the original.

To estimate the extent to which such an invention will be applied is impracticable, since it affords an opportunity to all countries to possess themselves of exact reproductions of the masterpieces of art belonging to other nations—an interchange which will certainly be largely availed of. At first it is intended to employ the invention for the reproduction of some of the hidden treasures of the British Museum, and it is probable that the result in this one case alone will be to call attention to the beautiful to an extent which will be highly advantageous to the country and the art students of the world. It is declared by no less an authority than one of the principal officers of the British Museum that many beautiful original works of Grecian art are hidden away in the dark cellars of that institution, and he even mentioned that a considerable part of the famous Townley collection, for which the nation paid 20,000*l.* at the beginning of the

entirely, was permitted to remain in the basement of the Museum for more than 25 years, in a place so dark that the most interesting specimens could only be seen by the aid of a lantern, and it was under these unfavourable conditions that some of the finest gems selected by the Maison Marnyhae for reproduction had to be discovered.

The justice of the demand that these unique specimens of the work of the most successful Greek sculptors should be taken from the gloom of darkness and properly exhibited cannot be doubted, and the attention which has been called to them by the Marnyhae reproductions will greatly facilitate any move in the matter that may be made.

With regard to the reproductions they are from the very nature of the invention by which they are obtained perfect, and it cannot be doubted that they will be generally appreciated wherever the fine arts are studied. The museums of our colonies and of the United States may now possess themselves of works of art absolutely indistinguishable from the originals at a price merely nominal as compared with the ordinary and imperfect methods of copying previously adopted, so that the poorest of art students in every country—those who are entirely without the means of paying travelling expenses—may have the advantage of the companionship of the best models which the world has in any age produced, and thus every community will have the benefit of the general elevation and refinement of those around them.

SOUTH STAFFORDSHIRE AND EAST WORCESTERSHIRE INSTITUTE OF MINING ENGINEERS.

The thirteenth annual meeting of members was held in the Mining Museum, Dudley, on Monday (Mr. HENRY JOHNSON, sen., President, in the chair), and there was a large attendance. Mr. ALEXANDER SMITH, M. Inst. C.E. (the secretary), read the minutes of the last general meeting and of the council meetings, which were confirmed. The report of the council for the last year was then read, as follows:—

This is the thirteenth occasion upon which the council have had to make to their annual report, and they do so now with greater pleasure, as the long and tedious depression in the trades with which this Institute is connected has passed away, and the dawn of prosperity is rapidly breaking.

Eleven general meetings and ten council meetings have been held during the past year, and there have been three interesting excursions.

The list has been augmented by the accession of 19 new members, whilst nine have resigned, and have been struck off by the council, in accordance with Rule 21, so that the total is now 254, as against 245 last year, and, therefore, an increase of nine.

The receipts for the year 1879 amount to 1897. 18s. 4d., and the expenditure to 1892. 18s. 10d., or 37. 0s. 6d. more, and the bank balance is, consequently, reduced to 4527. 18s. 10d., and is now 4494. 18s. 6d., whilst it stood at 4527. 18s. 10d. at the close of the year, and is only short of the amount of the previous year by 33. 10s. 4d. The subscription list for the year 1879, which is really an addition to the capital of the Institute. The subscriptions and arrears due on Dec. 31 amount to 2897. 5s. 6d., and with the bank balance, 4494. 18s. 6d., bring up the total assets to 7392. 4s., so that actually your financial position is better by 10s. 10d. than it was the preceding year.

Your council reported last year negotiations were pending with the Mechanics' Institute committee for the renting of a suitable room to be exclusively occupied by the Mining Institute, and in which a mining museum could be formed. As you are aware the terms offered by the council have been accepted, and you are now in possession of this excellent room, so favourably situated in connection with the Geological Museum. It must be considered very satisfactory that both the Mining Museum and reference library are in course of formation. The latter has been established in a home of its own by this arrangement, and the fact having been established at Birmingham being so small, it was considered expedient early in the year to discontinue the occasional meetings held there.

Of the three excursions the first was made to the Cannock and Huntington sinking, the second to the Earl of Dudley's Claycroft openworks, upon the occasion of the visit of the Earl of Shrewsbury, and the last to the opening of the New Severn Bridge.

The council would urgently impress upon you the necessity for renewed efforts to further the objects of the Institute by reading papers or bringing forward matters of interest at the meetings, and any contribution to the Mining Museum and library will be particularly acceptable.

The Secretary then read the report of the auditors and the balance-sheet for the last year.

The scrutineers' report showed that Mr. W. J. Hayward was elected President, Mr. Thomas Brettell Vice-president, Mr. Richard Latham treasurer, Mr. Alex. Smith secretary, and the following gentlemen new members of the council:—Messrs. Henry Johnson, W. H. W. Whitehouse, Geo. Jones, C. H. Treglown, Isaiah Fisher, T. Fisher, and J. H. Cooksey.

The following gentlemen were unanimously elected members:—Mr. Joseph Cooksey, jun., mining engineer, West Bromwich; Mr. Henry Ernest Hughes, mining engineer, Aldridge; Mr. J. H. Pearson, coal and iron master, Handsworth; Mr. J. Hull, mechanical engineer, Nuneaton; and the following as students:—Mr. Wm. Cookson, Kingswinford; Mr. Alfred James Bulger, Pen-snett; and Mr. Charles Clarke, Tipton.

A unanimous vote of thanks was passed to Mr. S. Bailey for the cores from the Perry Sinking.

The retiring President then vacated the chair in favour of the newly-elected President, who delivered his inaugural address as follows:—

MR. VICE-PRESIDENT AND GENTLEMEN.—I thank you most sincerely for the honour you have conferred upon me to-day in electing me your President for the current year. When, twelve months ago, you were pleased to confer upon me the vice-presidency I must confess that it was with great reluctance I then accepted the office. This was not owing to any want of appreciation of the honour which you then expressed your wish to confer, but to a sense of the great responsibility entailed upon the President of such an Institute as this, and it was only upon the earnest solicitation of many of my friends connected with the Institute that I resolved to incur that responsibility. Well, to-day, gentlemen, you have elected me to the higher office of President, and deeply sensible as I am of my own shortcomings, I can do no more than promise you that such energy and ability as I possess shall be untiringly devoted to the service of our Institute, and I feel sure that you, on your part, will afford me that support and indulgence which you have always extended to the occupant of this chair, and prove "to all my faults a little blind." For any efforts on my part I shall feel amply repaid if at the end of my year of office it should prove that they have been crowned with even a small measure of the success which has attended the work of my predecessors—men of the highest position and attainments—whose devotion to its interests has so largely contributed to the high position our Institute now holds among similar scientific bodies in the kingdom. The spirit of the present age is, however, eminently progressive, particularly in the scientific world, and we must not rest one jot of our efforts, but rather redouble them, if we are to maintain the position which has been won. The rapidity with which science advances is indeed startling, I might almost say bewildering, for no sooner have we applied some marvellous discovery to a purpose for which it appears perfectly adapted than we find it entirely superseded by some newer discovery more marvellous still. See what has been done during the last few years in those branches of science in which we ourselves are most deeply interested. You will remember that at our last annual meeting our then President, Mr. Henry Johnson (who, as we all know, takes an exceptionally deep interest in scientific matters), introduced to our notice a most startling innovation in the mode of raising coal and at the same time ventilating the mine. Whilst we in this country had been devoting our best energies to the improvement, and as far as possible perfection, of winding machinery and ventilating fans of enormous capacity, Mr. Johnson informed us that an engineer in the Epine district of France had succeeded in so utilising the atmospheric pressure as to entirely dispense with winding engines or ventilating fans and furnaces. I have heard various opinions expressed as to the success or otherwise of the system, but I gather from a recent scientific publication that Mr. Blanchet's claims for his invention greatly reduced danger from fire-damp, and a saving of some 137. 6d. daily extraction of 450 tons from a depth of upwards of 400 yards. If this is so, I think we must admit that on the score of safety and economy M. Blanchet's atmospheric system is a decided success. Mr. Johnson introduced to our notice at the same meeting a compressed air locomotive, which can be made at a cost of 6000, and is so constructed as to be adapted for running on ordinary underground roads. Although this mode of transit is so great, and at first sight might seem to be an innovation on our existing systems of underground haulage, yet I hear that these compressed air locomotives are in daily use at the Newbottle Colliery, and effect a saving of 100 per cent. as compared with horse haulage.

Then, again, as to our mode of lighting our towns and public buildings, &c., which we thought had been perfected by the adoption of that wonderful discovery of its age (gas), we have been considerably startled by the probability of its being superseded by the electric light. The latter it is true is not yet available for general use, but the indefatigable Mr. Edison is still engaged in perfecting his process, and we are continually hearing reports, which may possibly soon be realised, that his efforts have so far succeeded as to ensure the adoption of this wonderful light for a very great variety of useful purposes. I think that we may fairly take credit to ourselves as mining engineers for a readiness to avail ourselves of the discoveries of science, for before Mr. Edison has perfected his discovery M. André (himself a mining engineer) informs us that he has made an electric lamp with which he can light our mines, and indeed has promised at an early date to illuminate a Staffordshire coal pit by its application. Well, our friend Mr. Parton, not content to wait for M. André's electric lamp, will to-day exhibit to us Dalman's process for taking captive daylight or any powerful artificial light, and reproducing it at will in our mines or elsewhere. We hear, too, that Herr Koerner (who I presume is a German) has invented a mining lamp, which in its way is also a great novelty. He has discovered that platinum black has the property of condensing on its surface light carburetted hydrogen. He places in a gauze chamber pieces of pumice stone impregnated with platinum black, and as all air for maintaining combustion passes through this chamber all the gas is condensed and rendered harmless before reaching the flame. It would be premature to pass an opinion upon the efficiency and practicality of any of these novel applications of science, but I am sure you join with me in the devout wish that one or all of them may prove to be all we hope, and may conduce to the safe lighting of our mines, and so enable us to reduce the number of calamitous explosions, such as that which so recently startled and horrified us in North Staffordshire. I note that this disastrous explosion took place in the Banbury beam, in which there is usually found a great accumulation of coal dust. We have ourselves devoted a great deal of attention to the part which coal dust plays in explosions, and it will be interesting to know to what extent (if any) it

is supposed to have contributed to the intensity of this most deplorable accident. Whilst on the subject of accidents I would remind you that our Government Inspector, by direction of the Secretary of State, has very recently issued a circular calling our attention to accidents from overwinding. The members of our Institute as a body have always displayed an earnest desire to second the efforts of the Government Inspector in reducing the number of accidents, and I would suggest that this circular, inspired by such a high authority as the Home Secretary, should have the earnest consideration of our members, with a view of ascertaining which of the numerous appliances for the prevention of overwinding now before the public is best calculated to attain the object in view. That we in South Staffordshire are keeping pace with our brethren in newer districts, as far as improved methods of winning and working coal are concerned, is readily proved by what is going on in our midst. Look at the extensive Cannock Chase Collieries, and the famous Sandwell Park Colliery, which would be a credit to any mining district. The Cannock and Huntington Colliery, which was the first in this country to adopt the Kind-Chaudron system of sinking. Then, again, the Hamstead Colliery, which now holds out promises of success, and I am sure we all hope they may be speedily realised. The Blakely Hall Colliery, too, where difficulties have presented themselves as great as they were unexpected, but which there now appears reason to believe have been surmounted by the energy and skill of those interested. I am sure we all hope that this will prove to be so. Geology is a subject at once interesting and eminently useful to a mining engineer, and I would suggest that the Council take into consideration the desirability of engaging a first-rate geological authority to give us a course of (say) three or four lectures, to be devoted more particularly to those formations most interesting to us as mining engineers—say the coal formations, which contain the Northampton and Lincolnshire ironstones, the Permian, the carboniferous series, and the Salurian, including the hematite deposits. The securing of this room as a mining museum for the Institute must be a matter of congratulation to all of us, and now let me impress upon you the desirability of each one adding something to the valuable sections, models, and other interesting things which it contains, the gifts of members and friends. I would draw your attention also to our magnificent bookcase, and suggest that it might be so filled with appropriate books as to become useful to all of us as a mining and geological reference library, and of still greater advantage to our younger members, as affording them access to a variety of works bearing on their profession which they could scarcely find elsewhere. There must be many of our members with books which they could well spare, and which I cannot but think they would be glad to give where they might be productive of much good. I have handed over to the secretary a list of half-a-dozen volumes which I shall be happy to present in order to stimulate the movement. In conclusion, gentlemen, I beg to thank you for your very kind attention, and to ask you to afford the Council and myself your support in furthering the objects of the Institute, which are to enable its members to meet and discuss the means for the ventilation of coal and other mines, the winning and working of collieries and mines, the prevention of accidents, and the advancement of the sciences of mining and engineering generally. You can every one of you aid us, gentlemen, by attending the meetings regularly, and giving the members assembled the benefit of any knowledge you may have acquired tending to promote these objects.

The President then proposed a vote of thanks to the retiring president (Mr. Johnson), and this was seconded by Mr. Brettell, and carried with loud applause.—Mr. Johnson, in reply, said the Institute had not done as much as it might have done; but this was due to the fact that things had been so bad in the coal trade that no one had cared to launch out, being fully occupied in looking after their business. (Applause). Mr. Munro moved a vote of thanks to the officers and council, and Mr. John Hughes responded.

Mr. A. H. W. Radcliffe, telegraph engineer, Birmingham, read a paper on "The Edison loud-speaking telephone." The experiments were very successful, the operators being 600 yards apart, and the replies very distinct. In reply, Mr. Radcliffe said the instrument's wire was not much affected by the electric currents in other wires even in contact. The sounds were purely electrical.—Mr. Thomas Davis, of Hill Top, exhibited a parallel ruler and six different scales combined in one implement—a most useful improvement.—There were also exhibited models of Leonard's patent safety apparatus, Fox's corrugated furnace flues, and Messrs. J. Davis and Son's mining instruments, &c.—Mr. Thomas Parton, F.G.S., read a paper on "Colliery accidents and their prevention." He said the principal fatalities were due to falls of roof and explosion. Something might be done by the introduction of lights without heat in mines, and he had a cardboard on which was imprisoned daylight. He had taken the board into a cellar and there read a newspaper. He believed the preparation would soon light up parts of mines where it was dangerous to use any flame. Mr. Parton then showed the cardboard, which was covered with carbonate and phosphorus of lime.—The President moved a vote of thanks to the readers of papers and to the exhibitors of inventions, and this was carried unanimously.—Mr. Hall exhibited his patent switch box, and presented a model of it to the Institute.—Mr. Johnson gave notice that at the next meeting he should move the expunging of words in rule 9, which virtually excluded mechanical engineers from being president.—Mr. Johnson said that the coal measures found at the Hamstead sinking were as "kind" as possible. The sinking was now 549 yards deep.—The members afterwards dined together.

THE DEPHOSPHORISATION OF IRON.

The Cleveland Institution of Engineers at Middlesbrough on Monday continued the discussion on the dephosphorisation of iron, which engaged so much attention on a former occasion. Mr. S. G. Thomas, of London, the patentee of the process of world-wide renown which is known as the Thomas-Gilchrist process, and which is being applied on a large scale by Messrs. Bolckow, Vaughan, and Co., at Middlesbrough, took part in the discussion.

Mr. J. E. STEAD (Fratton and Stead) analytical chemist, first read a paper, supplementing that brought forward by him on Dec. 16 last. He said that since reading that paper he had made several experiments to ascertain the effect of manganese upon phosphate of lime, and also upon phosphate of manganese. Into the bottom of a small basic lined crucible he placed 1½ grammes of phosphate of manganese, and upon the top of this 5 grammes of ferro-manganese, containing 7½ per cent. of manganese. In a second crucible a similar quantity of phosphate of lime was placed, and on the top of it the same quantity of ferro-manganese, which was carefully covered over with more phosphate of lime. Into a third crucible he also placed phosphate of lime, and over it 5 grammes of carburised iron, containing little or no phosphorus. All these crucibles were placed side by side in a large plumbago crucible, embedded firmly in powdered basic bricks, and after the covers were securely placed they were covered with about one inch more of powdered lime. The lid was then placed upon the crucible, which was impounded into a furnace and heated to whiteness for about an hour. It was then removed, and the fused metallic buttons taken out and subjected to analysis. The button from the crucible which held phosphate of manganese contained 67.6 per cent. of manganese, and an increase of 1 per cent. of phosphorus. That from the crucible containing phosphate of lime had increased a little over 1 per cent., the manganese being respectively 67.6 and 68.6 per cent. The phosphorus in the decarburised iron, which was treated in a similar manner to ferro-manganese for comparison, had not increased above one-tenth, or 1 per cent. In another experiment, where the crucible was kept in the furnace for a greater length of time, it was shown that nearly 5 per cent. of phosphorus had been gained by the metallic button of ferro-manganese. Judging from these results he thought it was very clear that manganese not only powerfully acted upon the phosphoric acid contained in phosphate of manganese, but it also had a great reducing effect upon the phosphoric acid contained in phosphate of lime. He thought that those results went to prove that it was manganese which reduced phosphoric acid from the cinder in the Bessemer converter. The matter deserved more investigation, and what between the results obtained by M. Pourcel and himself (Mr. Stead), he thought that before long he would be able to give a most satisfactory explanation of this phenomena. The fact that manganese reduced its own phosphate showed them that the metal, subjected to the dephosphorising process in which it was the object to remove the phosphorus before the elimination of the carbon, told them directly that it must be as free as possible from that element, for as long as manganese existed in the metal it would have a tendency to reduce any phosphate of manganese or lime produced during the early stages of the blow.

Attention had been drawn to the great desirability of supersaturating the scoria with lime, in order that the life of the linings might be prolonged. Great advantage had, it was stated, been obtained on the Continent by the use of iron containing little or no silicon, and an increased proportion of phosphorus. Several methods had been proposed to bring such iron to the converter. The first was that which was being practically carried out at Hörde, where white iron, containing about ½ per cent. of silicon, was used, together with a sufficient quantity of phosphate of iron, made specially for the purpose of giving the necessary amount of heat in blowing. The second was that which consisted in blowing out the silicon from the metal in a gasifier-lined converter, running off the slag, and then transferring the desilic-

ised iron at an increased temperature to the converter lined with basic bricks. This had been carried out at Messrs. Bolckow, Vaughan, and Co.'s steelworks at Eston. The third method was that described by Mr. Warner, in which he proposed to smelt with the Cleveland iron ore a sufficient quantity of the basic slag or phosphoretic material to give an increased proportion of phosphorus in the iron, and to desilicise this iron with a mixture of soda ash and limestone, which he (Mr. Stead) confessed was the most rapid and complete process of refining that had ever yet been before the public. The desilicised iron, after leaving the desilicised converter, was taken to the Bessemer vessel, and there blown in the usual way. There were other methods of purification, one of which was that of Bacon and Thomas, in which oxide of iron and limestone was charged together with pig-iron in a cupola furnace, and the whole were melted down together. This method effected a more or less complete removal of silicon, which depended altogether upon the quantity of oxide of iron charged. The question as to which of those processes would ultimately be found most practicable and less costly was one which experience could only answer. Messrs. Krupp have patented a slight modification of this process, and if it was thoroughly successful, the refined iron would be very valuable for puddling processes, but for the Bessemer converter would be almost useless. With reference to an important point, the disposal and utilisation of basic slag, Mr. Stead said that although it contained between 20 and 40 per cent. of phosphate of lime, the presence of from 5 to 15 per cent. of combined iron made manure manufacturers think that it would not answer to make superphosphate of lime from it. It seemed to him that as a manure it would be most valuable in a raw state, after grinding to a fine powder. The cinder, especially that which was least silicious, was valuable as a means of increasing the proportion of phosphorus in pig-iron where the amount naturally was not high enough to give the necessary amount of heat in the converter, and also as a flux for blast furnaces. Excepting the phosphoric acid, slag of such a nature was more valuable than an equal weight of limestone, for the metallic shots of combined iron would be obtained, and the manganese would probably have an influence in removing sulphur from the metal in the blast furnace, or perhaps, to state the matter more correct, would prevent it from entering into combination with the iron.

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,

MINEOWNERS, STOCK AND SHARE DEALERS, &c.

1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

If we could with any degree of certainty answer the queries of a "Novice" we should soon be able to make a fortune for ourselves and lay down the pen. And as the questions of our new correspondent are but fair specimens of those we receive almost daily from others, and many of them more experienced, let us briefly notice them, and offer the best advice we can.—1. A "Novice" wants to know what mines are likely to have a certain and quick rise? We only wish we knew for certain.—2. Is it best, he asks, to go into copper, tin, or lead?—3. How long will the present excitement last?—4. Would you buy shares that have already risen, or low-priced and neglected shares?

We think we have said before that so long as metals keep up mines will rise, and when a serious turn in metals takes place mines will fall. First, therefore, watch metals. We have also said before that there are two or three things we never advise—1. Do not speculate for a mere rise or fall in market values, which is nothing more nor less than gambling in shares. Never buy what you cannot pay for, and never put money into mines that you cannot afford to lose. Of all speculations it is the most uncertain; it is taken advantage of more than any other occupation to foist off spurious concerns under the name or shadow of a good one, and requires more than usual caution even at the best. At the same time, enormous profits are often made in a short time, and these are best secured by a division of risks in a properly selected few. Look well to the management of mines, see what working capital there is in hand, and that all liabilities are not only charged up, but discharged. In previous manias for mining the great after-curse was the heavy calls and unknown liabilities falling upon a few. These may now be avoided by having good balances in hand for working purposes, and a determination to allow no debts to accrue. This is the plan we intend to enforce in all mines that we are connected with. So that anyone investing or speculating may, at the worst, know his loss. The young speculations that we have noticed of late have all large balances—Prince of Wales, upwards of 30000; Carnarvon Copper, 50000; Polrose, 30000; and long before these are spent we shall look for a cent. per cent. rise in values. Crebore, which was making calls when we first recommended it, will commence dividends next month. The profit shown will, we expect, be equal to 10s. per share, but we would recommend 7s. 6d. to begin with, and if the mine goes on as at present they may increase to double that amount. It is probable that future meetings may be quarterly, and the shares made into 12,000. They are now so largely dealt in upon the Stock Exchange that many brokers think the division desirable. Parys Corporation has about 50000 capital in hand, and a large lot of unissued shares. This, therefore, is good, irrespective of the great prospects of the mine.

We would only remark in conclusion that we have always been careful in our remarks to be generally under rather than over the mark in our estimates, and also as cautious as, under the circumstances, we could be in recommending particular mines. Those who attended to our early advice have already realised large sums of money, and we hope they may go on and prosper. But when, and how soon, a reaction may take place, and all become sellers instead of buyers, it is impossible for us to say or to be accountable for.

Another correspondent, evidently not a novice, reminds us that at this time last year we named at his request half-a-dozen mines to speculate in, and wants to know if we will do the same thing again. Of those we named last year "some are worth as many pounds as they were then worth shillings, and others have risen more than cent. per cent.," but the times, we may add, are different. Mining was then at very low water, and those who joined in our recommendations then have been rising with the tide, which is still flowing, and may, we hope, flow on for a long time prosperously. As an investment we think Wheal Crebore will go higher on the merits of the mine. For low-priced shares to be bought and held for certain points, to come off in six or eight months—(say) Prince of Wales, East Crebore, Carnarvon Copper, Polrose, Aberllyn, Parys, Morfa Du, Glenroy, and Penstruthals.

The 73rd section of the Act says—"No dividend shall be payable except out of profits arising from the business of a company." Realised profits as we take it.

We are glad to see that the shareholders in Rookhope will have an opportunity of getting back their money. The "Northern Lead Mining Company," in 10,000 shares of 10s., have purchased the mine for 46000, in fully paid-up shares, and the rest are to be offered at par, first to the old shareholders, and then to the public.

In 1869 Devon Great Consols was in 1024 shares only; it is now in 10,240.

It is a singular circumstance, and one which shows the extraordinary increase in mining business, that during the settlement last week it was impossible for some time to get stamps for transfers. On Friday every stationer's office we applied to had been cleared out, and we were unable to deliver a large amount of stock before Monday.

It is no unusual thing now for shares to rise and fall 20 or 30 per share in a day, and it is, impossible, therefore, for anyone to hit the right time either to buy or sell. We used to deal at net prices of the day, but it is now the net price of the hour.

The assays of the ore for sale at Wheal Crebore are as follows:—95 tons, 7½ per cent.; 91 tons, 7½; 90, 7½; 88, 7½; 86, 6½; 75 tons, 8 per cent.—total, 525 tons, which, if the standard remains as it is, we estimate to produce 50 per ton, or 26250, which would leave about 17000, profit for the two months. The mine has further improved,

and the points in operation are valued in the aggregate at 390½ per fathom.

We cannot say how long it will take to get the engine up and water out of the Prince of Wales, but hope we shall be raising copper in six months time. The mine has at different times sold several rich parcels of silver, but it is to copper that we look for permanent results.

When East Crebor is "in fork"—that is, when the water is pumped out—a few fathoms will have to be sunk to the point of junction of the Wheal Crebor south lode with the north. Irrespective of this, however, it is expected that ore ground on the old lode will at once become available, and if so shares may have a great rise; but those who buy must be prepared for a 2s. call.

D'Eresby Mountain has sampled 30 tons of lead ore.

Clementina has sampled 10 tons.

We are glad to hear of the discovery in North Penstruthal, as we strongly advised our friends to apply for them at par, and they are now 2½ premium. We hope soon to see as good a rise in South Penstruthal.

The Herodsfoot ore for three months sold for 1426½ 5s. The best parcel, computed 70 tons, realised 17½ 10s. per ton; 30 tons 6½ 12s. 6d. per ton.

POLROSE.—The water will be out of the mine in about a week, and the tin ground explored, and we hope to see the shares 5½ each before long, and upon the merits of the mine alone.

We are glad to see that good lead is coming into the 108 end north at Glenroy. A course of ore here is what we have expected, and may not be far off.

CARNARVON.—Our agent would have gone to examine the western ground here this week but for illness. We hope he will be able to go in a few days. He is strongly impressed with its great value, and a discovery here might double the value of the property very soon.

MR. WILLIAM H. H. WATSON, DEALER IN RAILWAY STOCKS AND MINING SHARES at net market prices of the day.
Address: W. H. H. WATSON, 1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON, E.C.

SOUND INVESTMENTS.

The great revival which has recently taken place in the Stock Markets, is the best possible evidence that the trade of the country is steadily improving, and that surplus profits are beginning to be invested. There is every prospect of the buoyancy continuing, notwithstanding the fears which many appear to entertain, that because money may become dearer, involving a fall in the price of Consols, therefore Railway and other Stocks should be depressed, as the very causes which operate to increase the rate of interest, are those which tend to improve securities.

LONDON, CHATHAM, AND DOVER RAILWAY.—The dividend on the Preference Stock at the rate of 4 per cent. per annum, with an amount carried forward sufficient to pay the full 4½ per cent., and leave a surplus of nearly 25,000½, must be a surprise to those sceptics who have refused to believe the many evidences of the steady progress of this Railway. This result has been achieved during a period of unprecedented depression, the hop and fruit crops last autumn having been almost a total failure, and both the Continental and sea-side holiday traffic were greatly reduced, owing to the unfavourable weather. The past half year has also had to bear the burden of the interest upon the Debenture and Preference Stocks issued in exchange for the Sevenoaks and Maidstone line.

It is just possible that some Preference and Ordinary Shareholders who now see their Stocks quoted at 99½ and 31 respectively, may ask themselves whether the time has not arrived for realizing. I am convinced, however, that the more the position is studied, the more satisfied will Shareholders become that they have a property which is likely to continue in the same steady rate of development which has gone on uninterruptedly for so many years. The growth of the Metropolitan is an important factor in estimating the value of these Stocks. The Metropolitan and Suburban lines represent no less than 20 miles of the entire system, upon which there are 20 stations, and the fact cannot be too often reiterated, that whereas the Metropolitan and Metropolitan District Railways had to cut their way through densely populated districts, at a cost of 1,000,000½ per mile, which at the time was considered fabulous, the London, Chatham, and Dover was originally constructed through more sparsely inhabited localities, but which year by year are being built over with a rapidity which is positively amazing.

While this great development of the local traffic is taking place everything is being done to stimulate increased business on the main line. The growing popularity of the Queenborough and Flushing route to the Continent, the widening of the line to Bickley, the opening at an early date of the Deal and Dover section, and the establishment of the New Central Fruit and Vegetable Market in the heart of the City of London in connection with this Line are all indicative of improvements which may be anticipated. Being in direct communication with the Great Northern and Midland Railways, the benefits of the through working are so manifestly advantageous to both that it is more than probable the rumours as to a more intimate alliance with one of them may become a reality. At the present price of 99½ (including 2 per cent. dividend) the Preference Stock will attract those investors who seek a good 4 per cent. Security, which is likely soon to receive 4½ per cent.; while the Ordinary Stock at 31 will commend itself to those who buy non-dividend paying Stocks to lock up.

GRAND TRUNK RAILWAY OF CANADA.—At last the extension to Chicago is completed, thus shortening the distance from New York as compared with the route via the New York Central and Lake Shore lines by nearly 40 miles. In a few weeks when the traffic has had time to develop, I have not the slightest doubt that abundant evidence will be afforded of the value of this new feeder to the parent system. Trade in America is so very active that there must be ample traffic at good paying rates for all the Railways converging upon such a business centre as Chicago. It is a feature that large purchases of the Ordinary and Third Preference Stocks have recently been made on behalf of American and Canadian capitalists, who, no doubt, are quick to discern the new career of prosperity dawning.

The refusal of the Directors to accept my offer for the unissued Ordinary Capital of 2,500,000½, indicates that the Company have ample cash resources, and that they can afford to wait just as well as Transatlantic capitalists. The profits secured by those American buyers of the long-neglected Erie and Atlantic and Great Western Stocks, who are now said to be purchasing Grand Trunk Securities, are shown by the following figures, comparing the quotations of year ago with the present date:—

	Prices, Jan., 1879.	Present prices.
Erie 1st Mortgage	90½	122
Erie 2nd do.	69½	93
Erie Preference Shares	32	75
Erie Ordinary do.	19½	50
Atlantic and Great Western 1st Mortgage	23	72
Atlantic and Great Western 2nd Mortgage	8	35½
Atlantic and Great Western Preference Stock	No value	12
Atlantic and Great Western Common (Ordinary) Stock	No value	12

A careful analysis of the figures of the past half year's working demonstrates that there will be an available balance sufficient to

pay the whole of the first Preference interest in full and to leave a surplus; and if such a result has been attained before the opening of the Chicago Extension, it is not too much to expect that the remaining stocks not yet earning a dividend will be those for which there will be the most spirited competition. Among the many favourable points in connection with the future, there is one which is not generally considered, viz.:—that the interest on the Bonds held in the Chicago Line is sufficient of itself to pay 1½ per cent. on the First Preference Stock.

GRAND TRUNK DEBENTURE STOCK.—Investors who buy Canada Government 5 per Cent. Bonds at 107 seem to overlook the fact that they can buy Grand Trunk 5 per Cent. Debenture Stock at 96½ which ought to be more attractive, as, while its amount is strictly limited and defined, the Dominion Government can make further issues whenever required and, if necessary, at lower prices. The effect of such new creations of Canadian Government Stocks would be to reduce the value of existing Loans, but in the event of the Directors of the Grand Trunk placing the 2,500,000½ Ordinary Stock held in reserve for a higher price, the value of all existing descriptions of capital would be enhanced.

MEXICAN RAILWAY COMPANY.—The brilliant success of the new issue of 6 per cent. Debenture Stock to replace Bonds bearing a higher rate, is a great event in the history of this Company, the amount available for allotment having been applied for more than ten times over. It reflects much credit upon the Directors who have worked so assiduously for many years to bring the Company into its present position. This Debenture Stock is now at 6 premium, at which price the yield to an investor is about 5½ per cent. As the whole of the subvention money will be applied in the redemption of these Bonds by purchase, the Company will have to buy in the market every month on receipt of remittances from the Mexican Government. The effect of these persistent purchases will be to improve the value of the Debentures, and of necessity enhance the price of the Shares.

No better evidence can be adduced as to the progress of a country than the development of its Railways. In the case of Mexico the traffic receipts show the following extraordinary results:—

In 1876 the total was	£435,629
In 1877 do.	540,181
In 1878 do.	578,850
In 1879 do.	648,360

the latter exceeding my most sanguine estimates of 637,000½. In October last I advised the purchase of the ordinary shares at 2½ 10s., and the 1st Preference at 9½ 10s., now quoted respectively at 6 and 19½ ex div. Under the improved aspect of affairs, I consider they are cheap at those prices.

The last published traffic for December, which showed an increase of 8400½, and if this rate should be maintained throughout this year, there will be sufficient to pay the 8 per cent. 1st and the 6 per cent. 2nd Preference Shares in full, and leave a surplus for the Ordinary Shares.

ATLANTIC AND GREAT WESTERN RAILWAY.—The views expressed in my last month's Circular have been fully confirmed, and hence a rise has been established in all securities of this railway; its prospects are decidedly brightening.

ATLANTIC, MISSISSIPPI AND OHIO.—The 1st Mortgage Bonds of this Railway at the present price of 114 are remarkably cheap, including, as they do, 3½ per cent. of overdue coupons. On the 1st April, when the next coupon of 3½ per cent. matures, the Receivers will be in a position to pay 5 or 7 per cent. in cash, and the remainder of the coupons will be funded in 1st Mortgage Stock, as in the case of the Erie Railway. On the basis of the quotation of 122 for Erie 1st Mortgage, these bonds would therefore be worth about 163, but even assuming them to be worth only par, the value would be 135, thus giving a great margin of profit to a present investor. The fact that Sir Henry Tyler, the President of the Grand Trunk, is Chairman of the Bondholders' Committee, is a sufficient guarantee that English interests will be thoroughly protected.

SOUTH INDIAN GOLD MINES.—Since recommending these shares, they have advanced to £2, and although the rise has been rapid, there seems to be no disposition on the part of subscribers to part with their holdings, merely to secure what is technically called "a quick profit;" on the contrary, the shares are firmly held for investment, and mostly by those who have required some further indication of value than is ordinarily contained in a prospectus. There is not a single point with reference to this property on which the most sceptical cannot obtain satisfactory and full information. The knowledge of its merits induces some who are intimately acquainted with the district to predict that the shares will advance enormously, and that such prices as 5½ or 10½ may be reached even before the quartz-crushing machinery is at work. Without endorsing any extravagant estimate, I think there is every indication of a great rise taking place in the shares.

NEUCHÂTEL ASPHALTE.—The ordinary shares have advanced to 1½, and the Preference to 2½, so that those who purchased on my recommendation some few months since, at 4s. 6d. and 10s. respectively, can now realize a very handsome profit on their venture.

TRAMWAYS.—There has been a general advance in these Securities during the past month, as anticipated in my last Circular. Those who are now contemplating investments may safely select from the following, or distribute the amount equally over them:—Bordeaux, Birkenhead, Liverpool, Provincial, Tramways of Germany, Tramways Union, Wolverhampton, and Tramways and General Works. All the above I know to be sound, and believe likely to prove progressive.

BORDEAUX TRAMWAYS.—By the end of next month it is expected that about six miles of this Tramway system will be opened in the busiest part of the city. Seeing that the Company is already taking 800½ to 900½ per week on the Omnibus service, the immediate prospect is encouraging. The 10½ fully paid shares are a very cheap investment.

LIVERPOOL TRAMWAYS.—The reduced dividend just declared is entirely due to the opposition of a rival Omnibus Company, which has been kept alive in the hope of successfully competing for a lease of the valuable extensions about to be constructed by the Liverpool Corporation. Fortunately for the Shareholders, and aided by their support, I succeeded at the last meeting in carrying the resolutions accepting the terms of agreement proposed by the Corporation to this Company. Subsequent events have proved that those who sought support under the euphonious title of a "Committee of Local Shareholders," were really the representatives of the "opposition." The Proprietors had, indeed, a narrow escape, and they should bear this in mind for the ensuing meeting, in the event of any overtures being made to them from the same quarter, or from any combination of a similar kind disguised "in questionable shape." My friends are so largely interested, that I shall certainly attend the forthcoming meeting in Liverpool. Meantime the Shareholders ought not to part with their property, no matter what rumours they may hear from local sources.

BANKS.—The figures contained in my Analysis of the Reports and Balance-Sheets of the Joint Stock Banks of London, just published, will be studied with unusual interest. In nearly every instance there has been a decrease in the net profits, attributable, no doubt, to the dulness of trade and the consequent low value of money, but the dividends have been maintained, less amounts having been placed to Reserve than formerly. The most noticeable feature is the marked advance in shares of those Banks who have resolved to register under the new Act as "Limited."

—From Mr. Wm. Abbott's Circular for February, 10, Tokenhouse Yard, London, E.C.

GENERAL MARKETS.—Business continues to be very active, the settlement concluded last week being one of the heaviest known for some years. English railways have been particularly buoyant, the advance in some cases being important, especially in Sheffield, Midland, London and North-Western, Caledonian, Great Western, and Great Northern, A. The Midland dividend announced this week was very satisfactory, 6½ per cent., against 5½ for the corresponding period of last year; considering the unfavourable weather we have had, the traffic returns this week were favourable. Among Canadian and American securities some descriptions have advanced considerably, such as Oregon and Californian bonds, and Atlantic Mississippi and Ohio, but Atlantic

Great Western and Grand Trunk securities are somewhat dull. Foreign stocks are firm, Egyptian especially being in demand. The funds are steady. Mining still good, Prince of Wales, Polrose, Carnarvon, Crebor, East Crebor, and others in request.—W. H. H. WATSON, 1, St. Michael's-alley, Cornhill, E.C., Friday, Feb. 6.

WALKHAM VALLEY TIN MINING COMPANY (LIMITED).

Capital £20,000, in 20,000 Shares of £1 each.

First issue 10,000 Shares of £1 each, payable 5s. on application; 5s. on allotment; remainder by instalments of 5s. each at Two and Three Months.

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A. HANBURY, Esq. | T. E. CROCKER, Esq.

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OFFICES—37, WALBROOK, LONDON, E.C.

LOCAL MANAGER.

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This company is formed for the purpose of working the Walkham Valley Tin Mine, in the parish of Whitchurch, in the county of Devon. Several rich and valuable tin lodes have been opened upon. Water-power is available for all dressing and stamping purposes; this is an exceptionally good feature. The capital of the company is small, and a good mine and a rapid rise in tin shares are anticipated. Tin mining has become again a most profitable undertaking, and there is every probability of shareholders enjoying a long continuance of prosperity. Shares are advancing daily, and an immediate investment in the Walkham Valley Tin Mine while the shares can be purchased at par is strongly advised.

Full prospectuses, reports, &c., will be forwarded on application to the Secretary.

LADY BERTHA UNITED COPPER AND TIN MINING COMPANY (LIMITED).

Incorporated with Limited Liability under the Companies Acts, 1862, 1867, and 1877.

CAPITAL £15,000, IN 15,000 SHARES OF £1 EACH.

(Of which 4000, fully paid, are taken by the Vendors.)

Deposit payable upon Application 1s. per Share, and upon Allotment 1s. 6d. per Share.

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JAMES PEARCE, Esq., ironfounder, Tavistock, Devon.

JOHN CARR SHARPE, Esq., Shaftesbury Cottage, Croydon (Chairman of the Metropolitan House Property Investment Company, Limited).

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CONSULTING ENGINEER.

D. LAMBERT, Esq., C.E., M.E., 52, Imperial Buildings, Ludgate Hill, E.C.

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THE UNION BANK OF LONDON, Princes-street, E.C.

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Mr. H. T. GRAINGER, 5, Austinfriars, London, E.C.

Prospectuses, forms of application for shares, and reports on the property by Captain W. Richards, of East Russell Mine; Captain George Rowe, of Gawton Copper Mine; and Mr. R. Walters, mining surveyor, of Tavistock, and full information, upon application to the Secretary, at the offices of the company.

THE LEASE of a HEMATITE IRON ORE MINE TO BE SOLD, with PLANS, and STOCK of ORE already gotten about 1500 tons. To a party effecting a sale, a commission would be allowed on terms to be arranged, or the vendor would be willing to enter into an arrangement with a person having capital at disposal to continue working the same.

The property is in close proximity to the Hodbarrow Mines, and is of large extent and undeveloped, though a considerable quantity of ore has been gotten where working has been made.

The vendor not being prepared to continue working, will dispose on very moderate terms.

Address, G. J. EVERSON, Birmingham.

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For particulars of the most improved MACHINE for REDUCING the ABOVE to any degree of fineness, also production, power required, and samples, address to "X," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

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THE ADVERTISER has valuable SALT, METALLIFEROUS, and COAL MINES on the Continent and in this country FOR SALE and TO LET.

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Deals in all descriptions of MINING SHARES at close market prices, and always in a position to do business in SANTA BARBARA, PITANGUI, and COPAPO MINES.

The latest reports as to their progress and profits of the different concerns can be seen at his office.

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Wines of the well known brand of the BODEGA are sold in dock sample glasses, by the bottle, dozen, and quarter cask. Champagnes of every noted shipper by the bottle and glass. The prices are graduated from the wholesale shipment to the single glass. It is this system which has won for the BODEGA its great success, and which has been pointed out at great length both in the Times and other journals.

The premises stand on the historic site of the old Green Dragon, and are the largest in the United Kingdom devoted to the sale of wines wholesale and retail.

"The convivial spirit of the old house still haunts the spot, and refuses to be exorcised. . . . It is just the place for a Mining Exchange, and by the silent but irresistible law of fitness it seems already to have been so constituted."—Mining Journal. "The cohesiveness of a private club and the economy of the BODEGA are most happily combined."—Continental Gazette.

Also at 42, GLASSHOUSE-STREET; 13, OXFORD-STREET; 5 and 6, BUCKLESTREET; THE ARCHES, LUDGATE HILL; and 72, MARK-LANE, LONDON.

ARMY CONTRACTS.

COAL AND KINDLING WOOD.

TENDERS for the SUPPLY of COAL and KINDLING WOOD for MILITARY SERVICES, for twelve months, from the 1st April, 1880, to be received until Twelve o'clock noon on THURSDAY, the 19th day of February, 1880, by the Commissariat Officers in charge of the undermentioned districts:

NORTH BRITAIN DISTRICT	Commissariat Office, 1, Castle-terrace, Edinburgh.
NORTH DISTRICT	Commissariat Office, 38, George-street, Devonport.
WESTERN DISTRICT	Commissariat Office, Colewort Barracks, Portsmouth.
SOUTHERN DISTRICT	Commissariat Office, 10, Esplanade, Dover.
SOUTH-EASTERN DISTRICT	Commissariat Office, the Barracks, Chatham.
CHATHAM DISTRICT	Commissariat Office, Royal Artillery Barracks, Woolwich.
WOLWICH DISTRICT	Commissariat Office, Abbey Field, St. John's Green, Colchester.
EASTERN DISTRICT	Commissariat Office, Horse Guards, Whitehall, London.
HOME DISTRICT	Commissariat Office, South Camp, Aldershot.
ALDERSHOT	CHANNEL ISLANDS.
ALDERNEY	Commissariat Office, Alderney.
JURSEY	Commissariat Office, Guernsey.
JERSEY	Commissariat Office, Jersey.

Forms of Tender and Conditions of Contract may be obtained on application at the above-named Commissariat Offices, by letter addressed to the Senior Commissariat Officer, or in person between the hours of Ten and Four o'clock, and no Tender will be entertained unless made upon the Form so obtained.

The Tenders must be properly filled up, signed, and dated; and no Tender will be noticed unless delivered in time at the District Office, under closed envelope, marked "Tender" on the outside.

EVAN COLVILLE NEPEAN, Director of Army Contracts.
Army Contract Department, War Office, Pall Mall, S.W., Feb. 2, 1880.

NEW BRONFLOYD LEAD MINE (LIMITED).

Situate near Bow-street Station, Cambrian Railway.
FOR SALE, any part of ONE HUNDRED SHARES, at £3 10s. per share. £4 12s. per share paid—8s. further liability.
Intending purchasers will do well to visit the mine and see for themselves the prospect. The mine is in full working, and large profits are looked for during the year 1880.

Apply to Mr. JAMES LAWMAN, 70, Little Cadogan-place, Belgrave-square, S.W.
FOR SALE,—A COLLIERY and FIRE-BRICK WORKS, situate near LLANELLY, CARMARTHENSHIRE. A going concern in good working order.
For particulars, address "Dexter," MINING JOURNAL Office, 26, Fleet-street, London.

FOR SALE,—A STEAM COAL COLLIERY and FIRE-BRICK WORKS, near LLANELLY, CARMARTHENSHIRE.
Address, "Max," MINING JOURNAL Office, 26, Fleet-street, London.

FOR SALE, a FREEHOLD PROPERTY, containing a deposit of GOOD BROWN HEMATITE IRON ORE, which can be mined and delivered into South Wales for about 7s. 6d. per ton.
Apply to PAGES and Co., Metal and Mineral Brokers, &c., 41, George-street, Plymouth.

FOR SALE, a FIRST-CLASS SECOND-HAND 80 in. CORNISH PUMPING ENGINE, with several 11 ton BOILERS.
Apply, Wm. BENNETTS, Roskear, Camborne.

FREEHOLD COLLIERY AND ESTATE FOR SALE NEAR BIRMINGHAM. About 22 acres of MINERALS and about 15 acres of SURFACE LAND, available for building, adjoining the town of Oldbury, six miles from Birmingham—or the PITS and MINERALS would be SOLD SEPARATELY. First-class machinery, plant, and offices, in good working order.
There are also on the property valuable BEDS of CLAY and MARL suitable for making Blue Bricks and Tiles. The pits are only 20 yards from the canal basin, and the estate is intersected by the Stour Valley Railway. The Clay and Marl have been proved to a depth of 31 yards, but are believed to extend much deeper.
Apply to Mr. BINGLEY, the Oaks, Brighouse, Yorkshire.

ALUMINOUS HEMATITE ROYALTY.
TO MINING CAPITALISTS AND SMELTERS.
A SPLENDID OPPORTUNITY.

ONE THOUSAND ACRES OF STRATIFIED MINERAL DEPOSITS. No machinery required. No delay of output. One-and-a-half miles from seaport—Antrim coast.
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WAGON WORKS AND STOCK.
ON SALE, EXCELLENT WORKS at CHORLEY LANCAHIRE, and LLANTRISANT, SOUTH WALES (recently carried on by Messrs. Baxendale and Heald and Simon Leach), with all necessary MACHINERY and PLANT, together with LARGE STOCK of STORES and MATERIALS.
May be viewed, or full particulars obtained, on application to Messrs. DAVIES and Bax, Public Accountants, Preston.

A VALUABLE TIN MINE.
TO BE DISPOSED OF, a TIN MINE of unusually good prospects, which was suspended during the late depression. Some materials and buildings are now on the mine. A small outlay in a rotary engine for pumping and stamping would be followed by certain profits for a long period.
Apply to Capt. W. H. BULLOCK, Indian Queens, St. Columb.
February 4, 1880.

CUPREOUS PYRITES.
TO BE LET, for a limited period, and at a reasonable Royalty, the BUITON MINE, situate in the Province of Huelva, in the South of Spain, yielding CUPREOUS PYRITES. There are three large Houses for the Officials, besides Blacksmiths' Shop, Carpenters' Shop, Storehouse, and 39 Miners' Houses. A Railway, 30 miles in length, connects the property with the Port of Huelva. For further particulars, apply to the Secretary of the South Europe Mining Company, 3 Penchurch-street, London, E.C.

HEMATITE IRON ORE.
TO BE LET, BY TENDER, all that VALUABLE BED or SEAM of HEMATITE IRON ORE lying and being under the Estuary of the Duddon, in immediate proximity to (and, in fact, part of) the world-renowned Holbarrow Hematite Mine, in the Parish of Millom, and County of Cumberland, the property of The Right Honourable the Earl of Lonsdale.
The property has recently been tested by "boring," and the existence of a valuable Mine of Hematite Ore is a certainty.
A plan of the property, journal of the bore-holes, and conditions of letting, may be obtained upon application to R. ALLENBY ROBINSON, Esq., Whitehaven Castle, Whitehaven (who will appoint a person to show the property), and by whom written offers will be received up to and including the 1st day of March next.
The proprietor will not necessarily accept the highest or any offer.

PIT SINKING, WINDING COAL, PUMPING, &c.
PORTABLE STEAM ENGINE FOR SALE, with two 13½-inch cylinders, fitted with link-motion reversing gear, large boiler, with or without road travelling wheels, and winding and pumping gear.
Also a double 9½-inch cylinder PORTABLE ENGINE.
A 5½-inch cylinder VERTICAL ENGINE, with winding drum, complete.
An 8-inch cylinder VERTICAL HOISTING ENGINE, with winding drum complete.
To be seen at—
BARROWS AND STEWART'S WORKS, BANBURY, OXON.

FOR SALE, at NEW PEMBROKE MINE, CORNWALL:—
An excellent 25 in. DRAWING ENGINE and TWO BOILERS.
TWO SPARE BOILERS.
100 lathoms FLAT RODS, 3½ inch.
10 arm CAPSTAN IRON AXLE.
A quantity of ROD PLATES and OTHER MATERIALS.
Apply to Mr. JOHN POLKINGHORNE, Woodlands, Par Station.

PATENT TRUCK WINCHES, HAULING ENGINES, &c., for over and underground purposes. Worked with air or steam. Strong, simple, and effective.

A. HIGGINSON AND CO.,
56, TOWER BUILDINGS, E., LIVERPOOL, W.

NANT-Y-MOCH MINING COMPANY
(LIMITED).
Capital £10,000, in 10,000 Shares of £1 each.

Prospectuses and Shares may be obtained on application to Capt. A. FRANCIS, M.E., Goginan, Aberystwith; or from ERNEST W. S. MURRANT, Esq., 8, St. Benet-place, London, E.C.

MR. W. F. STANLEY, MATHEMATICAL INSTRUMENT MANUFACTURER TO H.M.'S GOVERNMENT, COUNCIL OF INDIA, SCIENCE AND ART DEPARTMENT, ADMIRALTY, &c.
MATHEMATICAL, DRAWING, and SURVEYING INSTRUMENTS of every description, of the highest quality and finish, at the most moderate prices.
Price List post free.
ENGINE DIVIDER TO THE TRADE.
Address—GREAT TURNSTILE, HOLBORN, LONDON, W.C.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN THE MATTER OF THE COMPANIES ACT, 1862, and of the NORTH TREKERRY MINING COMPANY.—BE SOLD, under the direction of the Registrar of the said Court, on Wednesday, the 18th day of February instant, at Twelve o'clock at noon, at the NORTH TREKERRY MINE, in the parish of Saint Agnes, within the said Stannaries, subject to such conditions as shall be then and there produced, all that the INTEREST of the said Company of and in the Leases or Sets under which its mining operations have been carried on, together with the WHOLE of the extensive

MINING PLANT, MACHINERY, MATERIALS, AND EFFECTS Belonging to the said Company, and being within and upon the said mine, including, with other effects,
ONE 80 in. cylinder ENGINE, 10 ft. stroke, equal beam, with TWO 10 ton BOILERS and fittings.
ONE 53 in. cylinder PUMPING ENGINE, 9 ft. 6 in. cylinder, by 8 ft. in the shaft, with brass-lined pump and TWO 10-ton BOILERS.
ONE 15 in. WINDING ENGINE, 6 ft. stroke, fly wheel, cage, &c., complete.
ONE 8 ton BOILER; one Crusher with 20 in. Rolls, 16 in. long; ONE 8 ton NEW BOILER, from Harvey's, 28 ft. long.
The Account House Furniture and numerous other articles and effects in general use in mines, and full particulars of which may be obtained on application to the Official Liquidator of the said Company, at the Stannaries Court Office, Truro, and for the inspection of the said machinery, &c., to the Bailiff in charge at the Mine.

HODGE, HOCKIN, AND MARRACK, Truro,
(Solicitors for the Official Liquidator.)
Dated Stannaries Court Office, Truro, this 4th day of February, 1880.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN THE MATTER OF THE COMPANIES ACT, 1862, and of the CARGOLL MINING COMPANY.—TENDERS will be RECEIVED by the Official Liquidator of the said Company, to be addressed to him at the Stannaries Court Office, in Truro, until Saturday, the 14th day of February instant, stating the HIGHEST PRICE which will be given for the 20-in. Cylinder DRAWING and PUMPING ENGINE, with Fly-wheel, belonging to the said Company now being within and upon the Cargoll Mine, in the parish of Newlyn East, within the said Stannaries.

The above may be inspected at the Mine, and for further particulars apply to the said Official Liquidator at the Stannaries Court Office aforesaid.
R. M. PAUL, Truro,
Solicitor for the said Official Liquidator.
Dated Stannaries Court Office, Truro, 4th February, 1880.

VALUABLE MINE MACHINERY FOR SALE.

MR. SPRY is instructed to SELL, BY PUBLIC AUCTION, on Wednesday, 18th February, 1880, at half-past Two o'clock in the afternoon, on Wheel Northwood Mine, in the parish of St. Neot, Cornwall, between two and three miles from Doublebois Station on the Cornwall Railway, and about five miles from Liskeard, the undermentioned

VALUABLE MACHINERY, comprising—
A 25 in. cylinder ROTARY ENGINE, with 10 ton boiler; 16 iron stamps axle, with heads, iron lifters, &c.; a 20 ft. water-wheel, 2 ft. breast, with wrought-iron axle and iron ring; and about 50 fms. of 8 in. cast-iron pipes, &c.
Also, a FIVE IRON CASTINGS, comprising one in. working barrel, 12 ft. long; one 4 in. cylinder, 6 in. stroke, 4 in. pump; one guagee and saddles 5½ in. bearing; one nose plate; one bishop's head; two bridges for bob; two 4 ft. 6 in. sheaves and saddles.
The engine and stamps were quite new when erected not long ago, have done very little work, and are in capital condition.
To view, apply to Mr. GEORGE BRONN, at Northwood Farm House, close to the Mine; for further particulars to Mr. RICHARD CLOGG, Liskeard; or to the Auctioneer, Liskeard.—Dated 24th January, 1880.

CARMARTHENSHIRE.
TO COLLIERY PROPRIETORS, IRON MERCHANTS, CONTRACTORS, &c.
EXTENSIVE SALE OF VALUABLE COLLIERY PLANT AND MACHINERY.

MR. JOHN M. LEEDER has been favoured with instructions from Messrs. MASON and ELKINGTON, who are abandoning their Works, to SELL, BY PUBLIC AUCTION (without reserve), on Tuesday and Wednesday, February 17th and 18th, 1880, the following

VALUABLE PLANT AND MACHINERY, viz.:
FIRST DAY'S SALE.

At CAPEL IFAN COLLIERY, in the Gwendraeth Valley, within half a mile of the village of Pontyberem, ten miles by rail from Bury Port, and five miles by road from Llanelli.
Comprising a 12 in. horizontal WINDING ENGINE, 18 in. stroke, with 8 ft. 6 in. fly wheel, crank and shaft and reversing gear, complete; 9 in. horizontal WINDING ENGINE, 14½ in. stroke, wrought iron fly wheel, shaft, and 5 ft. 4 in. fly wheel with reversing gear, complete; 16 in. horizontal WINDING ENGINE (made at Millbrook), 3 ft. stroke, slot link, reversing gear, disc crank, pinion 18 in., driving wheel 7 ft. diameter, and wrought iron shaft; drum 8 ft. diameter, 3 ft. 6 in. wide, with wrought iron shaft; fly wheel 11 ft. 6 in. diameter, with wrought iron shaft; pumping wheel 7 ft. 4 in., with wrought iron shaft; all the exhaust pipes to the slack; and all spare pinion, drum, curbing, and spanners; 2 egg-end boilers, 34 ft. long and 6 ft. 2 in. diameter and 5 ft. 8 in. diameter respectively, with feed and steam pipes, safety valves, &c.; 12 in. vertical pump, 24 in. stroke (by Tangey); 6 in. special pump, 12 in. stroke, ditto 8 in. vertical winding or pumping engine, 1 ft. 10 in. stroke, 7 ft. fly wheel, driving wheel 5 ft. diameter, complete; about 100 tons of tram rails, chiefly 14 lbs. and 16 lbs. to the yard; a quantity of cast iron wings and crossings; about 110 iron trams, 1 ft. 11½ in. gauge, to carry 15 cwt.; a quantity of chain; ¼ in. 5-16 and 7-16 wrought and cast scrap iron; bar iron; large quantity of incline and flooring plates; weighing machine, size of plate 5 ft. 3 in., to weigh 3 tons; coal screen to make three kinds of coal, lower part of which is by 8 ft. upper part 15 ft. by 6 ft.; wrought iron bars, 3 in. by 3 in. sheet iron sides and stoppers, with all the timber, levers, Billy fair-play, &c.; sheet iron coal shoot, 13 ft. by 5 ft. 3 in.; portable coal screens; blacksmiths' tools; ditto bellows, anvils, vices; wheelbarrows; 180 safety lamps; office furniture, &c.; also the railway siding, comprising about 800 yards of flange T head rails, 50 lbs. to the yard; 140 yards ditto; 40 lbs. rails; 34 yards of 58 lb. rails; 80 yards bridge rails, 50 lbs. to the yard; points, crossings, 500 creosoted sleepers, &c., &c.

SECOND DAY'S SALE.
At POOL COLLIERY, situate one and a half mile from Pembrey and Bury Port Stations, and two miles from Llanelli on the G.W.R.

Comprising a Cornish condensing ENGINE (by Harvey and Co., Hayle Foundry), cylinder 70 in. diameter, provided with heating jacket, stroke 10 ft. in and 9 ft. out, has 3 valves, air pump, condenser, and all the necessary machinery, the beam is of cast iron, length 32 ft., depth at centre 6 ft. 2½ in.; 3 excellent Cornish boilers, 35 ft. and 37 ft. long respectively, 6 ft. 6 in. diameter, tube 4 ft. and 4 ft. 3 in., with steam and feed pipes, safety feed and blow off valves, &c.; a 14 in. horizontal WINDING ENGINE (by Waddle), 3 ft. stroke, with driving wheel and pinion, wrought iron fly shaft, drum 6 ft. diameter, 4 ft. wide, with reversing slot link gear and throttle valve; 14 in. horizontal ENGINE of same dimensions, with drum 10 ft. diameter, 4 ft. wide, and spare crank; 2 Galloway boilers, 13 ft. long, 6 ft. 6 in. diameter, 2 tubes and 3 small diagonal tubes and water heater combined, stop, safety, and feed pipes, steam, and feed pipes, complete; weighing machine to weigh 8 tons; pitch pine pit frame; tipping stage and screen, with corrugated galvanised roof; 3 pit pulleys, 8 ft. diameter; about 500 tons of tram rails, 13 lbs. to 30 lbs. to the yard; 45 yards of 9 in. pumps; about 3 tons of 16 in. and 17 in. pumps; pitch pine pump rods; wrought iron pump rod; straps and connections; 18 in., 20 in., and 21 in. plungers; stuffing boxes; expansion pipes, clack and match pieces; 3 angle beams, with wrought iron spindle, gibs, cutter, plunger blocks, and brasses; double acting forcing pump (by O'maney and Tatham); horse mortar mill, with wrought iron spindle and cast iron pan, 8 ft. diameter; cast iron balance bob, 16 ft. 9 in. by 2 ft. 9 in. wide, 18½ in. deep; ditto 19 ft. 2 in. long, 3 ft. deep, and 21 in. wide; wrought iron ditto, ½ in. plates, 27 ft. by 4 ft. 6 in. by 19 in., with wrought iron spindle and balance attached; pumping cog wheel, 9 ft. 9 in. diameter, 11 in. wide, pitch of teeth 4½ in., and wrought iron shaft, 12 ft. 6 in. by 10 in.; double purchase crab winch, capstan, windlass; sinking buckets and stages; rock hand boring machine and bits; 2 wrought iron pit cages; horse box, wheelbarrows; ladders; timber; bolts and nuts; anvils, vices, &c., &c.

There will be a train at the Bury Port Station, on the G.W.R., waiting the arrival of the 10-33 A.M. up train and 10-43 A.M. down train, to convey intending purchasers to the place of sale, which will also convey them back to Bury Port at the close of each day's sale.

Sale to commence on the first day at half-past Twelve o'clock in the afternoon. A luncheon will be provided the first day at Twelve o'clock, and 11-30 on the second day.

Sale to commence on the second day at Twelve o'clock at noon precisely. As the lots are numerous, purchasers are particularly requested to be punctual. The Auctioneer can with great confidence say that the whole of the plant is in excellent condition, much of which has not been long in use. The valuable Cornish condensing engine, by Harvey, is in perfect working order, as is also the whole of the other engines and machinery, having been in work up to a very short period.

Detailed catalogues may be had on application to the Auctioneer, at his offices, Oxford Chambers, Oxford-street, Swansea.

UNION AND CANNOP ENGINE COLLIERY, FOREST OF DEAN.

TO BE DISPOSED OF, BY PRIVATE CONTRACT, on or before the 1st of March next, the above VALUABLE GALE, comprising a surface area of 335 acres, or thereabouts, containing the WHITTINGTON COAL, the COLEFORD HIGH DELF, and the TRENCHARD VEINS.
The celebrated Coleford High Delf is from 5 to 5 ft. 6 in. thick, and have been extensively worked, and with very great success, in the adjoining colliery, and estimated to yield 6000 tons per acre of first-class marketable coal. Whether for steam, for factories, or for domestic purposes, it may be won by shafts at 120 yards below the surface.

A fine deposit of BRICK-MAKING CLAY has been recently discovered on the property, which can be worked by level.

The Union and Cannop Gales possesses the advantage of a branch of the Severn and Wye Railway passing through the surface centre in line with the inclination of strata. It is contiguous to the Speech House Station; distance from Lydney Port and from the South Wales Great Western Railway six miles.

The Gale is subject to a royalty to the Crown of 2d. per ton, with a minimum fixed rent of £80 per annum merging in royalties.
For terms and further particulars, apply to Messrs. W. NEEDHAM and SON, M.E., &c., Newport, Mon.; Messrs. POWLES and VERNARD, Solicitors, Monmouth; and Mr. J. R. NORTON, Esq., Solicitor, Monmouth.

BY ORDER OF THE EXECUTRIX.

SALE OF THE FAMOUS

GRAIG LIME QUARRIES,

Including the KILN, TRAMWAYS, WEIGHING MACHINE, and HOUSE, OFFICES, SMITHY, SHEDS, and all other BUILDINGS erected thereon, situate close to the TOWN OF DENBIGH.

MESSRS. WM. DEW AND SON WILL SELL, BY PUBLIC AUCTION, at the Bull Hotel, Denbigh, on Wednesday, the 25th day of February, 1880, at Two for Three o'clock in the afternoon, punctually, subject to conditions to be produced, the above well-known

LIMESTONE QUARRIES,

Most advantageously situated near the Denbigh Railway Station, connected with the main line by a branch 800 yards long.

Denbigh is an important railway junction, and affords facilities for conveying stone and lime to Cheshire, Lancashire, the Manufacturing, Mining, and Agricultural Districts of both England and the Principality.

The quarries are in complete working order, and is sold as a going concern. It can be easily worked on a much more extended scale, even with the present appliances, and with a little energy the business can be greatly increased. The stone is held in great esteem by architects and builders.

The rock is almost inexhaustible, easily worked, having plenty of tip room, good floors, and no top; some beds are eminently adapted for polishing.

There is a large demand for the lime for both building and agricultural purposes. Three kilns have been constructed at great cost.

The extent of land held for quarrying purposes is 15a. 1r. 37p., and is held under a lease for 60 years, from 1st November, 1858, at a royalty of 2d. per ton, with a minimum dead rent of £50, and the yearly rent of Llanes Field and the lands connected with the branch containing 2a. 3r. 33p., is £6 6s., held under the same lease; £1 13s. 4d. is charged per month by the railway company for the use of Junction Siding.

Lithographed plans and particulars, with further information, may be had on application to Messrs. GOLD, EDWARDS, and WESTON, Solicitors, Denbigh, where a copy of the lease can be inspected, or the Auctioneers, Wellfield House, Bangor, and Town Hall, Rhyl.

IN LIQUIDATION.

IN RE THE CREDIT COMPANY.

VALUABLE FREEHOLD AND LEASEHOLD MINERAL PROPERTIES.
MESSRS. HARDS, VAUGHAN, AND JENKINSON are instructed by the Liquidators of the Credit Company (Limited) to SELL, at the Mart, Tokenhouse-yard, London, on Wednesday, the 3rd March, at Two o'clock, in Four Lots, exceedingly VALUABLE

FREEHOLD AND LEASEHOLD MINERAL PROPERTIES, Situated in the parishes of St. Austell, Stoke Climsland, and Calstock, Cornwall, and Brixham, South Devon, viz.:

The FREEHOLD of the valuable Hematite Iron Ore and all other Minerals underlying the Upton Estate, comprising an area of about 164 acres, situate in the parish of Brixham, a shipping port on the South Coast of Devon, whence there are easy freights to the Welsh ports.

Also, VALUABLE FREEHOLD PROPERTY, situated at Harrow Barrow, in the parish of Calstock, Cornwall, comprising four tenements and gardens, and an enclosure of land, formerly part of a field called East Ball, with absolute right to the Mines and Minerals under same.

Also, the LEASE for 13 years unexpired of the Holmush and Kelly Bray Copper and Lead Mines, situate in the manor of Stoke Climsland, Cornwall, close to Kelly Bray station on the East Cornwall Mineral Railway, whence trucks are conveyed to the waters edge at Calstock. The Holmush Mine is exceedingly rich in arsenical muffle and copper and lead ores. The Kelly Bray Mine yields arsenical muffle and copper ore of large quality.

Also, the LEASES (chiefly for 34½ years unexpired) of the Knighton, Treneweth, and Wheel Ruby Iron Mines, situated in the parish of St. Austell, Cornwall. These mines are rich in iron ore of good character.

Detailed particulars and conditions of sale may in due course be obtained of EDWIN ANDREW, Esq., Solicitor, 27, Clement's-lane, E.C.; of Messrs. CROOK and SMITH, Solicitors, Abchurch-yard, E.C.; at the Mart; and of the Auctioneers, 6, Moorgate-street, London, E.C.

IN LIQUIDATION.

RE FLORENCE AND TONKIN MINING COMPANY (LIMITED), CALLINGTON, CORNWALL.

TO BE SOLD, the LEASES, MACHINERY and PLANT (including a capital 25-in. cylinder PUMPING ENGINE), and BUILDINGS, LAND, and other property of the above company.

The sett is intersected by valuable lodes of Silver-Lead, Copper, and Tin. Tenders to be sent to me, at 23, Osborne-terrace, Clapham-road, London, S.W., where plans, &c., may be seen and further information obtained.
February 5th, 1880. F. A. COOK, Liquidator.

TO BE SOLD BY PUBLIC AUCTION, under Decree of the Supreme Court of Newfoundland in Equity, in a suit between CHARLES FOX BENNETT, Plaintiff, and SMITH, MCKAY, and LEADER, &c., Defendants, the 1st day of July next, at Twelve o'clock noon (if not previously disposed of by private sale), at the Court House, St. John's, Newfoundland, that VALUABLE COPPER MINE and MINING PROPERTY called and known as the

UNION MINE,

Situate on the east and west sides of Tilt Cove, on the north side of Notre Dame or Green Bay, Newfoundland, and near Cape John, with all erections, improvements, plant, and other property and effects thereto appertaining.

The Mine is held under Grant in fee from the Government of Newfoundland, containing two miles in length by half a mile in breadth; a License of Occupation from the said Government containing one mile square west of and adjoining the Crown Grant, and land held under conveyance of fee simple interest of former owners.

The title-deeds and documents, plans and surveys and Conditions of Sale of the property may be seen, and further information may be obtained, by application to PRESCOTT EMERSON, Esq., Q.C., Master in Chancery, at his office, in St. John's, or to either of the undersigned solicitors for the parties, or to either of the parties.

PRESCOTT EMERSON, Q.C., Master in Chancery, St. John's, Newfoundland.
January 23rd, 1880.

For further particulars apply to C. T. BENNETT, Esq., 55, Queen's-square, Bristol; Messrs. HENRY BATH and SON, Gresham House, London; or to Messrs. GREENE, Solicitors for the Plaintiff; WINTER and CARTER, Solicitors for Defendant, MCKAY.

IN VOLUNTARY LIQUIDATION UNDER THE COMPANIES ACT, 1862.
THE NEW LLANGYNOG LEAD MINING COMPANY (LIMITED).

TO BE SOLD, BY PRIVATE TREATY, ALL THE BENEFICIAL INTEREST of the New Llangynog Lead Mining Company (Limited) in the LLANGYNOG LEAD MINES, comprising all the valuable, productive, and extensive mines, veins, beds of lead, ores of lead, and other metals and minerals known collectively as the Llangynog Lead Mines, and in the reservoir, water-supply rights, easements, and interests thereto belonging, situate in the several parishes of Llangynog, Llanrhadr-y-n-Mochnant, Hiranant, and Pennant, in the county of Montgomery; and also the WHOLE of the movable PLANT and MACHINERY of the said company.

The Llangynog Lead Mines have been a highly productive and dividend-paying property.

The mines, machinery, and plant are in working order, and considerable quantities of ore are now being raised.

The works may be inspected at any time upon application to the Manager at the Mines. The leases and agreements may be inspected at the offices of Messrs. LONGUEVILLE, JONES, and WILLIAMS.

All further information may be obtained, and maps of the property inspected, on application to Messrs. GRO. HASWELL and Sons, 54, Foregate-street, Chester; to HENRY DENNIS, Esq., Mining Engineer, Hafod-y-Bwch, Ruabon; or to Messrs. LONGUEVILLE, JONES, and WILLIAMS, Solicitors, Oswestry.

VALUABLE FREEHOLD COLLIERY WITH COAL AND IRONSTONE MINES.

TO BE SOLD, either the WHOLE or PART of LESSOR'S INTEREST in a LARGE FREEHOLD COLLIERY in one of the North Midland Counties, also a LARGE AREA of LEASEHOLD COAL, with power to work thereout as much as possible during eleven years, without any further payment to Lessor.

The coal is of high repute in the London and Southern Markets, and the plant is powerful and efficient, and included in the Lessor's interest, and is capable of raising a minimum of 4000 tons of coal per week. There is ample siding accommodation in connection with the Midland Railway Company's Main Line to London.

The Advertiser would be prepared to CO-OPERATE with the PURCHASER in WORKING the COLLIERY, finding his proportion of Capital for such purpose.

For particulars, apply to Messrs. J. and P. HIGSON, Civil and Mining Engineers, 13, Crown Buildings, Booth Street, Manchester.

VALUABLE LEAD PROPERTY FOR SALE.

THE OWNERS of a portion of the celebrated MINERA LEAD VEIN, which runs from Minera to Bodidris, from which enormous quantities of lead have been raised, are prepared to DISPOSE, BY PRIVATE TREATY, of a ONE-FOURTH SHARE.

The property is known as the Providence Mine Work, and is provided with engine and plant complete; it is between Minera and Bodidris Mines, about seven miles from Mold, North Wales; and offers to capitalists and speculators an unusually good opportunity for highly profitable enterprise.

Apply to WILLIAM LANGFORD, Hesp Alun Cileen, Mold, Flintshire.

COLLIERIES.

FOREST OF DEAN, GLOUCESTERSHIRE.

SIX COLLIERIES or GALES FOR SALE, containing valuable COALS suitable for HOUSEHOLD and other purposes.

The Severn and Wye Railway, in connection with the Great Western Railway and town and docks of Lydney, and also with the newly-made Sharpness Dock via the New Severn Bridge, distant respectively about four and six miles, runs through the property.

Address, "No. 38," MINING JOURNAL Office, 26, Fleet-street London, E.C.



PARIS,
EXPOSITION UNIVERSELLE, 1889.



ORDER OF THE CROWN OF PRUSSIA.



PALMOUTH,
SILVER MEDAL, 1887.

A DIPLOMA—HIGHEST OF ALL AWARDS—given by the Geographical Congress, Paris, 1875—M. Favre, Contractor, having exhibited the McKean Drill alone as the MODEL BORING MACHINE for the ST. GOTHARD TUNNEL.

SILVER MEDAL of the Highland and West of Scotland Agricultural Society, 1875—HIGHEST AWARD.

At the south end of the St. Gothard Tunnel, where

THE MCKEAN ROCK DRILLS

Are exclusively used, the advance made during eight consecutive weeks, ending February 7, was 24-90, 27-60, 24-80, 28-10, 28-30, 27-10, 28-40, 28-70 metres. Total advance of south heading during January was 121-30 metres, or 133 yards.

In a series of comparative trials made at the St. Gothard Tunnel, the McKean Rock Drill continued to work until the pressure was reduced to one-half atmosphere ($7\frac{1}{2}$ lbs.), showing almost the entire motive force to be available for the blow against the rock—a result of itself indicating many advantages.

The GREAT WESTERN RAILWAY has adopted these Machines for the SEVERN TUNNEL; the LONDON AND NORTH-WESTERN RAILWAY for the FESTINIOG TUNNEL; and the BRITISH GOVERNMENT for several Public Works. A considerable number of Mining Companies are now using them. Shafts and Galleries are driven at from three to six times the speed of hand labour, according to the size and number of machines employed, and with important saving in cost. The ratio of advantage over hand labour is greatest where the rock is hardest.

These Machines possess many advantages, which give them a value unapproached by any other system of Boring Machine.

THE MCKEAN ROCK DRILL IS ATTAINING GENERAL USE THROUGHOUT THE WORLD FOR MINING, TUNNELLING, QUARRYING, AND SUB-MARINE BORING.

The MCKEAN ROCK DRILLS are the most powerful—the most portable—the most durable—the most compact—of the best mechanical device. They contain the fewest parts—have no weak parts—act without SHOCK upon any of the operating parts—work with a lower pressure than any other Rock Drill—may be worked at a higher pressure than any other—may be run with safety to FIFTEEN HUNDRED STROKES PER MINUTE—do not require a mechanic to work them—are the smallest, shortest, and lightest of all machines—will give the longest feed without change of tool—work with long or short stroke at pleasure of operator.

The SAME Machine may be used for sinking, drifting, or open work. Their working parts are best protected against grit and accidents. The various methods of mounting them are the most efficient.

N.B.—Correspondents should state particulars as to character of work in hand in writing us for information, on receipt of which a special definite answer, with reference to our full illustrated catalogue, will be sent.

PORTABLE BOILERS, AIR COMPRESSORS, BORING STEEL, IRON, AND FLEXIBLE TUBING.

The McKean Drill may be seen in operation daily in London.

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GLASGOW.



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TOWER VARNISH WORKS,
NECHELLS, BIRMINGHAM,
MANUFACTURERS OF

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LAMP MANUFACTURERS,
AGRICULTURAL IMPLEMENT MANUFACTURERS,
DECORATORS, &c.

Lists and Samples on application.

Just published, cloth limp, price 1s. 6d.,

THE COLLIERY READY-RECKONER AND WAGES
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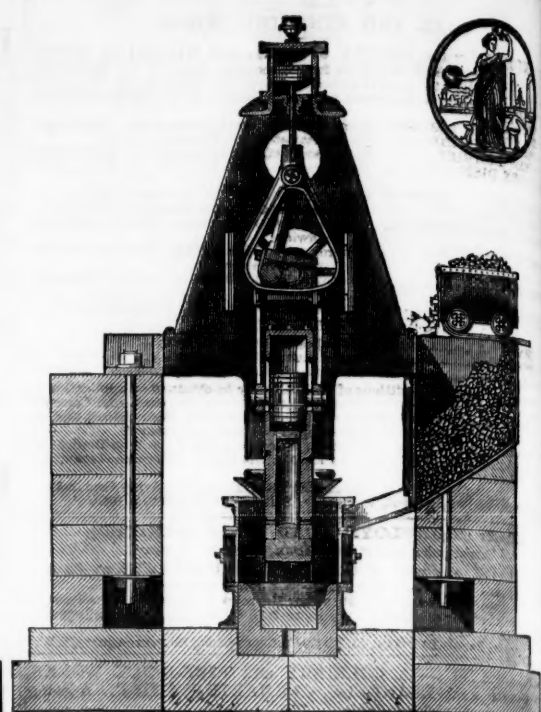
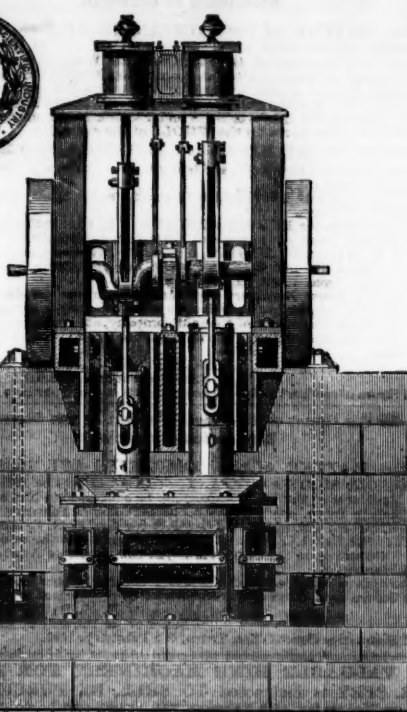
By JAMES IRELAND.

"Will be the means of preventing many disputes between pay clerks and colliers."—*Mining Journal*.
To be had on application at the MINING JOURNAL Office, 25, Fleet-street, E.C.

DEBILITY AND NERVOUSNESS.

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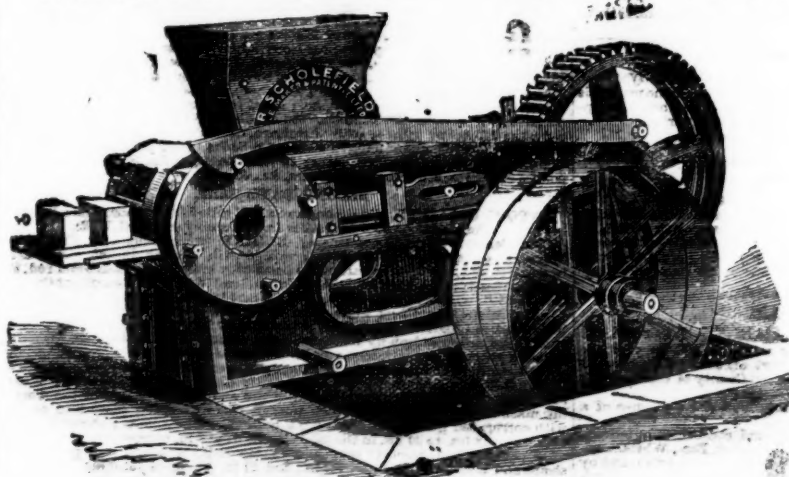
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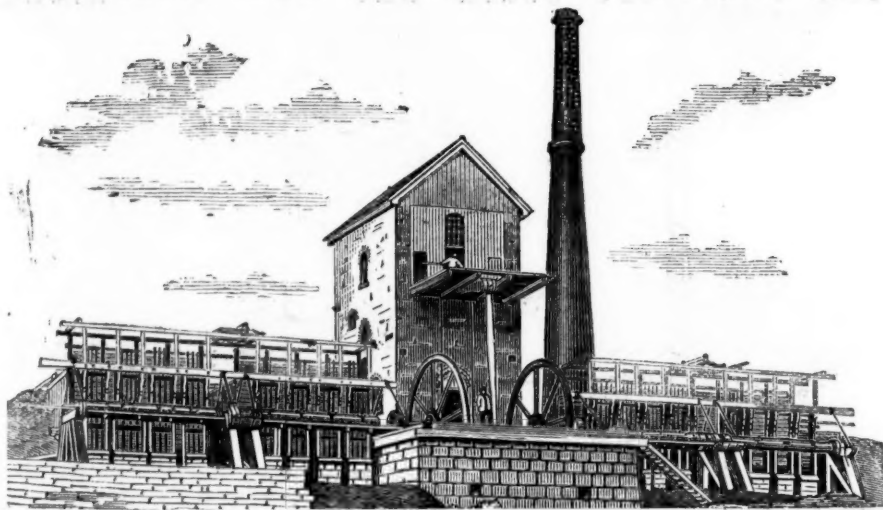
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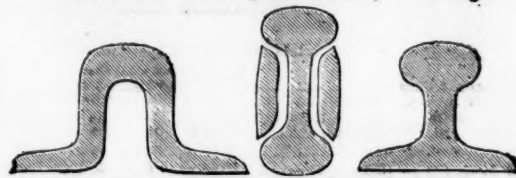
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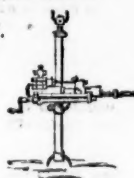
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